

# Agilent HPLC System Firmware Bulletin

Firmware Set A/B/C.06.5x

1220 Infinity LC

1260 Infinity LC System

1260 Infinity SFC System

1290 Infinity LC System

1290 Infinity II LC System

1100/1200/1120 LC System

G7100 Capillary Electrophoresis



**Agilent Technologies**

## Notices

© Agilent Technologies, Inc. 2012-2014

No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Agilent Technologies, Inc. as governed by United States and international copyright laws.

### Manual Part Number

PDF ONLY

### Edition

Edition 02/16/2015

Printed in Germany

Agilent Technologies  
Hewlett-Packard-Strasse 8  
76337 Waldbronn

### Revision

This technical note is valid for the Agilent HPLC System Firmware Bulletin Firmware.

### Warranty

**The material contained in this document is provided “as is,” and is subject to being changed, without notice, in future editions. Further, to the maximum extent permitted by applicable law, Agilent disclaims all warranties, either express or implied, with regard to this manual and any information contained herein, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Agilent shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or of any information contained herein. Should Agilent and the user have a separate written agreement with warranty terms covering the material in this document that conflict with these terms, the warranty terms in the separate agreement shall control.**

### Technology Licenses

The hardware and/or software described in this document are furnished under a license and may be used or copied only in accordance with the terms of such license.

### Restricted Rights Legend

Software and technical data rights granted to federal government customers include only those rights customarily provided to end user Customers of Software. Agilent provides this customary commercial license in Software and technical data pursuant to FAR 12.211 (Technical Data) and FAR 12.212 (Computer Software) and, for Department of Defense purchases, DFARS 252.227-7015 (Technical Data - Commercial Items) and DFARS 227.7202-3 (Rights in Commercial Computer Software or Computer Software Documentation). If a federal government or other public sector Customer has a need for

rights not conveyed under these terms, it must negotiate with Agilent to establish acceptable terms in a written agreement executed by all relevant parties.

## About this Document

This document provides the firmware changes in set 6.50 used for the following LC Systems

- 1220 Infinity LC LC
- 1260 Infinity LC Systems
- 1290 Infinity LC Systems
- 1290 Infinity II LC Systems
- 1200 Series LC
- G7100 Capillary Electrophoresis
- 1120 Compact LC
- 1100 Series LC

For information about other firmware sets refer to the Firmware Bulletin provided with the set.

### Where To Get Latest Information

Visit the Agilent web

[http://www.chem.agilent.com/\\_layouts/agilent/downloadFirmware.aspx?whid=69761](http://www.chem.agilent.com/_layouts/agilent/downloadFirmware.aspx?whid=69761)

for

- Latest updates
- Firmware Sets / Firmware Bulletin
- Emulation information
- Firmware Update tools and
- Instructions

# Document History

The table below lists all changes that have been made to this document.

**Table 1** Document History

Date	Description	Author
16-Feb-2015	<p>New Firmware has been released for some HPLC modules.</p> <ul style="list-style-type: none"> <li>• A.06.54 for all LEONARDO based RID, FRC</li> <li>• B.06.73 for all NUCLEUS based VWD, DAD, MWD, Pumps, CE (G4294B only)</li> <li>• D.06.73 for all FUSION based VWD, DAD, MLS</li> <li>• Resident firmware not changed.</li> <li>• Core Changes <a href="#">“Modules without on-board LAN (“A” firmware)”</a> , 40</li> <li>• Core Changes <a href="#">“Modules with on-board LAN (“B” and “D” firmware)”</a> , 41</li> <li>• <a href="#">“G4204A / G7104A Quaternary Pump”</a> , 55</li> <li>• <a href="#">“G4220A/B / G7120A/B Binary Pump”</a> , 59</li> <li>• <a href="#">“G7167A/B Multisampler”</a> , 69</li> <li>• <a href="#">“G1364A/B/C/D, G5664A Fraction Collector”</a> , 67</li> <li>• <a href="#">“G7114B VWD”</a> , 75</li> <li>• <a href="#">“G1315C/D DAD, G1365C/D MWD”</a> , 77</li> <li>• <a href="#">“G4212A/B DAD”</a> , 80</li> <li>• <a href="#">“G7117A/B DAD”</a> , 84</li> <li>• <a href="#">“G1362A RID”</a> , 87</li> <li>• <a href="#">“1120/1220 LC system”</a> , 101</li> <li>• <a href="#">“G7100 Capillary Electrophoresis (CE)”</a> , 109</li> </ul> <p>Updated all sections/modules that were impacted by the new revision.</p>	W. Albrecht
01-Dec 2014	<p>New Firmware has been released for some HPLC modules.</p> <ul style="list-style-type: none"> <li>• A.06.54 for all LEONARDO based pumps</li> <li>• B.06.72 for all NUCLEUS based VWD, DAD, MWD, pumps, Compact LC, CE</li> <li>• C.06.72 for Multicolumn Thermostat (G7116B)</li> <li>• D.06.73 for all FUSION based (VWD, MLS)</li> <li>• Resident firmware not changed.</li> </ul> <p>Updated all sections/modules that were impacted by the new revision.</p>	W. Albrecht
01-Dec 2014	Added section <a href="#">“G7100 Capillary Electrophoresis (CE)”</a> , 109.	W. Albrecht

**Table 1** Document History

<b>Date</b>	<b>Description</b>	<b>Author</b>
12-Nov-2014	<p><b>Release of firmware 06.70 for all modules that use B/C/D firmware versions.</b></p> <p><b>Existing 1200/1260/1290 modules with A/B/C/D firmware must be upgraded to latest firmware from set 6.50 when used with the new 1290 Infinity II modules G7167 Multisampler, G7114B VWD, G7117A DAD-FS, G7117B DAD, G7116B MCT.</b></p> <ul style="list-style-type: none"><li>• <a href="#">"G4204A / G7104A Quaternary Pump"</a> , 55 (G7104A Initial)</li><li>• <a href="#">"G4220A/B / G7120A/B Binary Pump"</a> , 59 (G7120A nitial)</li><li>• <a href="#">"G7167A/B Multisampler"</a> , 69</li><li>• <a href="#">"G7114B VWD"</a> , 75 (Initial)</li><li>• <a href="#">"G7117A/B DAD"</a> , 84 (Initial)</li><li>• <a href="#">"G7116B Multicolumn Thermostat (MCT)"</a> , 93 (Initial)</li></ul> <p>Updated all sections/modules that were impacted by the new revision.</p>	W. Albrecht
10-Sep-2014	<p><b>Updated build number of G7167B firmware.</b></p> <ul style="list-style-type: none"><li>• <a href="#">"Multisampler Changes (G7167B)"</a> , 70 (D.06.60 [011])</li></ul>	W. Albrecht
04-Sep-2014	<p><b>Release of firmware 06.60 for all modules that use B/C/D firmware versions.</b></p> <p><b>Existing 1200/1260/1290 modules with A/B/C/D firmware must be upgraded to latest firmware from set 6.50 when used with the new G7167 Multisampler!</b></p> <p><b>D-Firmware is for new platform modules. First module is the G7167 Multisampler.</b></p> <p>Due to an incompatibility between main firmware B.06.60 [0005] and old resident firmware it is mandatory to also update the resident firmware to B.06.60 [002] and C.06.60 [001].</p> <p>Updated all sections/modules that were impacted by the new revision.</p>	W. Albrecht
29-Apr-2014	<p>Update on Compatibility Section</p> <ul style="list-style-type: none"><li>• <a href="#">"Agilent LC Firmware Set Interoperability and Support Statement"</a> , 10 (added)</li><li>• <a href="#">"Notes for Agilent LC instruments controlled by non-Agilent Chromatography Data Systems (CDS)"</a> , 11 (added)</li><li>• <a href="#">"Examples"</a> , 12 (modified)</li></ul>	W. Albrecht
14-Mar-2014	<p>Release of firmware 06.57 for some modules</p> <ul style="list-style-type: none"><li>• <a href="#">"DAD Changes (G4212A/B)"</a> , 81 (B.06.57)</li></ul>	W. Albrecht
07-Mar-2014	<p>Correct naming of models (no change on firmware change information)</p> <ul style="list-style-type: none"><li>• <a href="#">"1120 Compact LC / 1220 Infinity LC"</a> , 18 (updated)</li></ul>	W. Albrecht

**Table 1** Document History

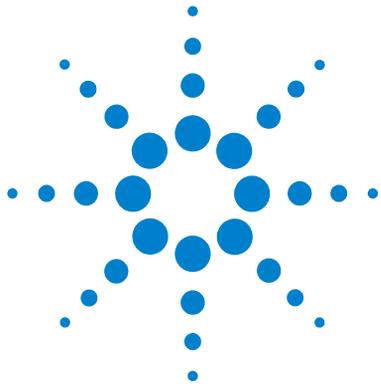
<b>Date</b>	<b>Description</b>	<b>Author</b>
06-Mar-2014	Rework of document (no change on firmware change information) <ul style="list-style-type: none"><li>• <a href="#">"About this Document"</a> , 3 (updated)</li><li>• 1200 Infinity Compatibility and Emulation Mode (removed, use Agilent Web <a href="#">"Where To Get Latest Information"</a> , 3</li><li>• <a href="#">"Compatibility Information"</a> , 10 (added)</li><li>• <a href="#">"OQ/PV - Validation Information"</a> , 13 (moved)</li></ul>	W. Albrecht
13-Jan-2014	Moved SFC Modules into of section <a href="#">"1260 Infinity SFC Modules"</a> , 25 and <a href="#">"1260 SFC Module Changes"</a> , 104 Added Firmware Information for <ul style="list-style-type: none"><li>• <a href="#">"SFC Controller Changes (G4301A)"</a> , 104 (A.03.80)</li></ul>	W. Albrecht
18-Dec-2013	Release of firmware 06.55/56 for some modules <ul style="list-style-type: none"><li>• <a href="#">"Pump Changes (G4204A)"</a> , 56 (B.06.56)</li><li>• <a href="#">"Pump Changes (G4220A/B)"</a> , 60 (B.06.56)</li><li>• <a href="#">"FL Detecor Changes (G1321A/B/C)"</a> , 85 (A.06.55)</li></ul>	W. Albrecht
23-Jul-2013	Release of firmware 06.55 for some modules <ul style="list-style-type: none"><li>• <a href="#">"Pump Changes (G4204A)"</a> , 57</li><li>• <a href="#">"Pump Changes (G4220A/B)"</a> , 61</li></ul> Release of firmware 06.54 for some modules <ul style="list-style-type: none"><li>• <a href="#">"High Performance Autosampler Changes (G1367A/E, G1377A, G2258A, G4226A, G5667A)"</a> , 64</li></ul>	W. Albrecht
08-May-2013	Release of firmware 06.54 for some modules <ul style="list-style-type: none"><li>• <a href="#">"Core Changes B.06.54 (modules with on-board LAN)"</a> , 42</li><li>• <a href="#">"Pump Changes (G4220A/B)"</a> , 62</li><li>• <a href="#">"Standard Autosampler Changes (G1313A, G1329A, G1329B, G1389A, G2260A)"</a> , 66</li><li>• <a href="#">"FL Detecor Changes (G1321A/B/C)"</a> , 85</li></ul>	W. Albrecht
08-May-2013	Release of firmware 06.53 for some modules <ul style="list-style-type: none"><li>• <a href="#">"High Performance Autosampler Changes (G1367A/E, G1377A, G2258A, G4226A, G5667A)"</a> , 64</li></ul>	W. Albrecht
24-Apr-2013	Added chapter <a href="#">"Conversion Possibilities"</a> , 26 in section <a href="#">"OQ/PV - Validation Information"</a> , 13.	W. Albrecht

**Table 1** Document History

<b>Date</b>	<b>Description</b>	<b>Author</b>
25-Feb-2013	Release of firmware 06.53 for some modules <ul style="list-style-type: none"><li>• <a href="#">"Core Changes B.06.53 (modules with on-board LAN)"</a> , 43</li><li>• <a href="#">"Pump Changes (G1312B)"</a> , 49</li><li>• <a href="#">"Pump Changes (G1361A)"</a> , 52</li><li>• <a href="#">"Pump Changes (G4204A)"</a> , 57</li><li>• <a href="#">"Pump Changes (G4220A/B)"</a> , 62</li><li>• <a href="#">"High Performance Autosampler Changes (G1367A/E, G1377A, G2258A, G4226A, G5667A)"</a> , 64</li><li>• <a href="#">"Fraction Collector Changes (G1364A/B/C/D, G5664A)"</a> , 67</li><li>• <a href="#">"VW Detector Changes (G1314A/B/C)"</a> , 71</li><li>• <a href="#">"DAD/MWD Detector Changes (G1315C /D, G1365C/D)"</a> , 78</li><li>• <a href="#">"DAD Changes (G4212A/B)"</a> , 81</li><li>• <a href="#">"TCC Changes (G1316C)"</a> , 89</li><li>• <a href="#">"G1369C LAN Interface Card"</a> , 91</li><li>• <a href="#">"G1170A Valve Drive"</a> , 94</li><li>• <a href="#">"G1390B Universal Interface Box II"</a> , 96</li><li>• <a href="#">"Flexible Cube Changes (G4227A)"</a> , 99</li><li>• <a href="#">"1120/1220 LC system"</a> , 103</li></ul>	W. Albrecht
25-Feb-2013	Created a new section <a href="#">"CAN Slave (Hosted Module) Changes"</a> , 93 and added <a href="#">"G4227A Flexible Cube"</a> , 98, <a href="#">"G1390B Universal Interface Box II"</a> , 96 and <a href="#">"G1170A Valve Drive"</a> , 94.	W. Albrecht
22-Feb-2013	Removed information for the Instant Pilot (G4208A). It's now documented in an individual document <b>"Local Controller"</b> and can be downloaded from the web, see <a href="#">"Where To Get Latest Information"</a> , 3.	W. Albrecht
06-Sep-2012	Release of firmware 06.52 for some modules <ul style="list-style-type: none"><li>• <a href="#">"Core Changes B.06.53 (modules with on-board LAN)"</a> , 43 for use with hosted modules G1170A, G4227A.</li><li>• <a href="#">"Pump Changes (G1312B)"</a> , 49</li><li>• <a href="#">"Pump Changes (G4204A)"</a> , 58</li><li>• <a href="#">"Pump Changes (G4220A/B)"</a> , 62</li><li>• <a href="#">"Flexible Cube Changes (G4227A)"</a> , 99</li><li>• <a href="#">"VW Detector Changes (G1314D/E/F)"</a> , 73</li><li>• <a href="#">"DAD/MWD Detector Changes (G1315C /D, G1365C/D)"</a> , 78</li><li>• <a href="#">"DAD Changes (G4212A/B)"</a> , 82</li></ul>	W. Albrecht

**Table 1** Document History

<b>Date</b>	<b>Description</b>	<b>Author</b>
19-July-2012	Release of firmware 06.51 for some modules <ul style="list-style-type: none"><li>• "Core Changes B.06.51 (modules with on-board LAN)" , 44 for use with hosted modules G1170A, G4227A.</li><li>• "Pump Changes (G4220A/B)" , 63</li><li>• "VW Detector Changes (G1314D/E/F)" , 74</li><li>• "DAD/MWD Detector Changes (G1315C /D, G1365C/D)" , 79</li><li>• "DAD Changes (G4212A/B)" , 82</li></ul>	W. Albrecht
31-May-2012	Release of firmware <ul style="list-style-type: none"><li>• "G4208A Instant Pilot" , 108</li></ul>	W. Albrecht
31-May-2012	Release of firmware A.06.50/B.06.50/C.06.50 for ALL modules	W. Albrecht



## Compatibility Information

Compatibility Information	10
Agilent LC Firmware Set Interoperability and Support Statement	10
Notes for Agilent LC instruments controlled by non-Agilent Chromatography Data Systems (CDS)	11
Examples	12
OOQ/PV - Validation Information	13

This chapter provides information about compatibility.



## Compatibility Information

The information is related to firmware described in this firmware set.

**NOTE** This set includes just the latest firmware of each module. It's fully compatible with your CDS that supports this firmware set.

---

### Agilent LC Firmware Set Interoperability and Support Statement

- Agilent releases LC firmware updates as so-called "firmware sets".
- All Agilent LC instrument firmware sets have been designed and tested to be truly and strictly backward compatible to the installed software base (CDS).
- The module firmware contained in each set is fully compatible and interoperable with all other module firmware of the same set.
- Agilent recommends using always the latest module firmware revision of a firmware set in order to avoid interoperability issues.
- Generally, Agilent recommends keeping the LC instrument firmware always current.
- Do not mix firmware revisions between different sets. Agilent does not guarantee mixed firmware revisions from older or newer sets.
- If you have to document the firmware revision (for validation reasons) please use the term "Revision XXX or later" or "Firmware from Set XX or later". This might help on discussions in case of required updates due to malfunctions that have been corrected in later releases.

## Notes for Agilent LC instruments controlled by non-Agilent Chromatography Data Systems (CDS)

- The 3rd-party CDS software vendor is responsible for compatibility testing with the respective CDS revision.
- The 3rd-party CDS software vendor defines the minimum firmware revision required for CDS compatibility.
- The 3rd-party CDS release notes issued by the respective CDS vendor may use different terminology for the firmware requirements such as "tested firmware", "supported firmware", "firmware requirements", "minimum tested firmware", etc.
- An Agilent LC instrument running a current firmware set is fully supported as long as it meets or exceeds the minimum firmware requirements specified by the 3rd-party CDS software vendor and meets Agilent's firmware set/firmware interoperability requirements.

## Examples

**NOTE** If a new feature has been added in a newer revision, an appropriate CDS revision that supports the new feature might be required. Otherwise it is just not visible/used.

---

This means

- A later revision than the initial firmware in this set is fully backward compatible and does not require re-validation of the system, unless it is mentioned under the specific change information, see [“Agilent LC Firmware Set Interoperability and Support Statement”](#) on page 10 and [“OQ/PV - Validation Information”](#) on page 13.
- A CDS tested with the initial revision will also work with the later revisions. This is normally also true for non-Agilent control software (3rd party CDS), see [“Notes for Agilent LC instruments controlled by non-Agilent Chromatography Data Systems \(CDS\)”](#) on page 11.
- Use firmware from a single set only.
- Use the latest firmware revision if possible.
- Upgrade all modules to latest revision when
  - a (new) module is added to the system or
  - receives a new main board or
  - a module is updated due to solving a problem.
- References in validation documents should not be done to specific revisions. Use (if possible) the term “Set X.XX or later”.

**NOTE** Do not mix firmware revisions from this set with older or newer sets. This firmware is not tested across set borders.

---

This means

- Use of firmware from different sets may cause unpredictable problems.

**NOTE** A.06.xx / B.0x.xx firmware does not talk to old 1100 firmware revisions A.05.xx and below.

This means

- Adding a new 1260/1290 module to an existing 1100 system will not show the new module in the CDS.
- Depending on the interfacing either only the old or new or no module(s) are shown in the CDS.
- You have to upgrade either the old module(s) to new firmware or downgrade the new module to old firmware (while the other side is disconnected via CAN).

## OQ/PV - Validation Information

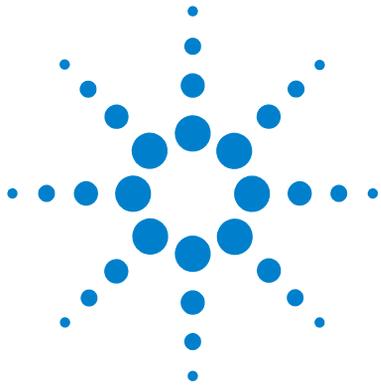
If a firmware upgrade has been performed, normally no revalidation of the module/system is required. This is stated in the module specific change information for each revision, see example below.

**Table 2** Module XXX A.0X.XX

<b>Date Introduced</b>	
<b>General</b>	
<b>Bugfix</b>	•
<b>New Features</b>	•
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## **2 Compatibility Information**

### **Compatibility Information**



## Change Information

Firmware Revision Change Overview	16
Resident Firmware	16
1120 Compact LC / 1220 Infinity LC	18
1260 Infinity SFC Modules	25
1260/1290 Infinity LC Modules	26
Core Changes	40
Pumps Changes	47
Sampler Changes	64
Detector Changes	71
G4240A Chip Cube	88
G1316/B/C TCC	89
G1369C LAN Interface Card	90
CAN Slave (Hosted Module) Changes	93
1120/1220 LC system	101
1260 SFC Module Changes	104
Controller Changes	108
G4208A Instant Pilot	108
G7100 Capillary Electrophoresis (CE)	109

This chapter provides the details of the various firmware revisions for the Agilent 1200 Infinity System. The changes listed in this chapter are the changes based on the last revisions below set 6.50.



# Firmware Revision Change Overview

## Resident Firmware

The resident firmware depends on the target module.

**Table 3** Resident Firmware

Module	Product#	Filename (.DLB)
with LAN on-board "D"	Note 2	Res_D670_001
with LAN on-board "D"	Note 2	Res_D660_002
with LAN on-board "B"	all	Res_B670_001
with LAN on-board "B"	all	Res_B660_002
with LAN on-board "B"	all	Res_B650_003
without LAN on-board "A"	all	Res_A650_003
LAN Interface Card	G1369C	Res_1369C_B670_001
LAN Interface Card	G1369C	Res_1369C_B660_002
LAN Interface Card	G1369C	Res_1369C_B650_003
for CAN slaves that requires host module "C"	Note 1	Res_C670_005
for CAN slaves that requires host module "C"	Note 1	Res_C660_001
for CAN slaves that requires host module "C"	Note 1	Res_C653_001
for CAN slaves that requires host module "C"	Note 1	Res_C650_001
Instant Pilot	G4208A	Res_4208A_B2xx_xxx (always latest)

### Notes:

- 1 Used for 'HOSTED' modules
  - G7116B Multicolumn Thermostat (1290 Infinity II)
  - G4227A Flexible Cube (1290)
  - G1170A Valve Drive (1290)

- G1390B Universal Interface Box II (1260/1290)

Resident version must be the same as main version and same as on host module.

- 2 New models introduced since August 2014 use a new electronic platform that run with “D” firmware (main and resident).

- G7167 Multisampler (MLS)
- G7114B VWD
- G7117A DAD FS
- G7117B DAD

## Firmware D

D-Firmware is for new platform modules.

- G7167 Multisampler (MLS)
- G7114B VWD
- G7117A DAD FS
- G7117B DAD

Due to an incompatibility between main firmware B.06.60 [0005] and old resident firmware it is mandatory to also update the resident firmware to B.06.60 [0002] and C.06.60 [001].

Existing 1200/1260/1290 modules with A/B/C/D firmware must be upgraded to latest firmware from set 6.50 when used with the new G7167 Multisampler and the other new modules!

## 1120 Compact LC / 1220 Infinity LC

**NOTE** Firmware updates can be done with the Agilent Lab Advisor software ONLY!

**Table 4** 1120 Compact LC / 1220 Infinity LC

Type	Module	Product#	Filename (.DLB)
<b>Main</b>			
	1120 Compact LC	G4286A	4286A_B672_002
	1120 Compact LC	G4286A	4286A_B670_005
	1120 Compact LC	G4286A	4286A_B660_005
	1120 Compact LC	G4286A	4286A_B653_013
	1120 Compact LC	G4286A	4286A_B652_001
	1120 Compact LC	G4286A	4286A_B650_003
	<b>1220 Infinity LC</b>	<b>G4286B</b>	<b>4286B_B672_002</b>
	<b>1220 Infinity LC</b>	<b>G4286B</b>	<b>4286B_B670_005</b>
	<b>1220 Infinity LC</b>	<b>G4286B</b>	<b>4286B_B660_005</b>
	<b>1220 Infinity LC</b>	<b>G4286B</b>	<b>4286B_B653_013</b>
	<b>1220 Infinity LC</b>	<b>G4286B</b>	<b>4286B_B652_001</b>
	<b>1220 Infinity LC</b>	<b>G4286B</b>	<b>4286B_B650_003</b>
	<b>1220 Infinity LC VL</b>	<b>G4286C</b>	<b>4286C_B672_002</b>
	<b>1220 Infinity LC VL</b>	<b>G4286C</b>	<b>4286C_B670_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4286C</b>	<b>4286C_B660_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4286C</b>	<b>4286C_B653_013</b>
	<b>1220 Infinity LC VL</b>	<b>G4286C</b>	<b>4286C_B652_001</b>
	<b>1220 Infinity LC VL</b>	<b>G4286C</b>	<b>4286C_B650_003</b>
	1120 Compact LC	G4287A	4287A_B672_002

**Table 4** 1120 Compact LC / 1220 Infinity LC

Type	Module	Product#	Filename (.DLB)
	1120 Compact LC	G4287A	4287A_B670_005
	1120 Compact LC	G4287A	4287A_B660_005
	1120 Compact LC	G4287A	4287A_B653_013
	1120 Compact LC	G4287A	4287A_B652_001
	1120 Compact LC	G4287A	4287A_B650_003
	<b>1220 Infinity LC</b>	<b>G4287B</b>	<b>4287B_B672_002</b>
	<b>1220 Infinity LC</b>	<b>G4287B</b>	<b>4287B_B670_005</b>
	<b>1220 Infinity LC</b>	<b>G4287B</b>	<b>4287B_B660_005</b>
	<b>1220 Infinity LC</b>	<b>G4287B</b>	<b>4287B_B653_013</b>
	<b>1220 Infinity LC</b>	<b>G4287B</b>	<b>4287B_B652_001</b>
	<b>1220 Infinity LC</b>	<b>G4287B</b>	<b>4287B_B650_003</b>
	1120 Compact LC	G4288A	4288A_B672_002
	1120 Compact LC	G4288A	4288A_B670_005
	1120 Compact LC	G4288A	4288A_B660_005
	1120 Compact LC	G4288A	4288A_B653_013
	1120 Compact LC	G4288A	4288A_B652_001
	1120 Compact LC	G4288A	4288A_B650_003
	<b>1220 Infinity LC</b>	<b>G4288B</b>	<b>4288B_B672_002</b>
	<b>1220 Infinity LC</b>	<b>G4288B</b>	<b>4288B_B670_005</b>
	<b>1220 Infinity LC</b>	<b>G4288B</b>	<b>4288B_B660_005</b>
	<b>1220 Infinity LC</b>	<b>G4288B</b>	<b>4288B_B653_013</b>
	<b>1220 Infinity LC</b>	<b>G4288B</b>	<b>4288B_B652_001</b>
	<b>1220 Infinity LC</b>	<b>G4288B</b>	<b>4288B_B650_003</b>
	<b>1220 Infinity LC VL</b>	<b>G4288C</b>	<b>4288C_B672_002</b>
	<b>1220 Infinity LC VL</b>	<b>G4288C</b>	<b>4288C_B670_005</b>

**1 Change Information**  
 Firmware Revision Change Overview

**Table 4** 1120 Compact LC / 1220 Infinity LC

Type	Module	Product#	Filename (.DLB)
	<b>1220 Infinity LC VL</b>	<b>G4288C</b>	<b>4288C_B660_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4288C</b>	<b>4288C_B653_013</b>
	<b>1220 Infinity LC VL</b>	<b>G4288C</b>	<b>4288C_B652_001</b>
	<b>1220 Infinity LC VL</b>	<b>G4288C</b>	<b>4288C_B650_003</b>
	1120 Compact LC	G4289A	4289A_B672_002
	1120 Compact LC	G4289A	4289A_B670_005
	1120 Compact LC	G4289A	4289A_B660_005
	1120 Compact LC	G4289A	4289A_B653_013
	1120 Compact LC	G4289A	4289A_B652_001
	1120 Compact LC	G4289A	4289A_B650_003
	<b>1220 Infinity LC</b>	<b>G4289B</b>	<b>4289B_B672_002</b>
	<b>1220 Infinity LC</b>	<b>G4289B</b>	<b>4289B_B670_005</b>
	<b>1220 Infinity LC</b>	<b>G4289B</b>	<b>4289B_B660_005</b>
	<b>1220 Infinity LC</b>	<b>G4289B</b>	<b>4289B_B653_013</b>
	<b>1220 Infinity LC</b>	<b>G4289B</b>	<b>4289B_B652_001</b>
	<b>1220 Infinity LC</b>	<b>G4289B</b>	<b>4289B_B650_003</b>
	<b>1220 Infinity LC VL</b>	<b>G4289C</b>	<b>4289C_B672_002</b>
	<b>1220 Infinity LC VL</b>	<b>G4289C</b>	<b>4289C_B670_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4289C</b>	<b>4289C_B660_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4289C</b>	<b>4289C_B653_013</b>
	<b>1220 Infinity LC VL</b>	<b>G4289C</b>	<b>4289C_B652_001</b>
	<b>1220 Infinity LC VL</b>	<b>G4289C</b>	<b>4289C_B650_003</b>
	1120 Compact LC	G4290A	4290A_B672_002
	1120 Compact LC	G4290A	4290A_B670_005
	1120 Compact LC	G4290A	4290A_B660_005

**Table 4** 1120 Compact LC / 1220 Infinity LC

Type	Module	Product#	Filename (.DLB)
	1120 Compact LC	G4290A	4290A_B653_013
	1120 Compact LC	G4290A	4290A_B652_001
	1120 Compact LC	G4290A	4290A_B650_003
	<b>1220 Infinity LC</b>	<b>G4290B</b>	<b>4290B_B672_002</b>
	<b>1220 Infinity LC</b>	<b>G4290B</b>	<b>4290B_B670_005</b>
	<b>1220 Infinity LC</b>	<b>G4290B</b>	<b>4290B_B660_005</b>
	<b>1220 Infinity LC</b>	<b>G4290B</b>	<b>4290B_B653_013</b>
	<b>1220 Infinity LC</b>	<b>G4290B</b>	<b>4290B_B652_001</b>
	<b>1220 Infinity LC</b>	<b>G4290B</b>	<b>4290B_B650_003</b>
	<b>1220 Infinity LC VL</b>	<b>G4290C</b>	<b>4290C_B672_002</b>
	<b>1220 Infinity LC VL</b>	<b>G4290C</b>	<b>4290C_B670_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4290C</b>	<b>4290C_B660_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4290C</b>	<b>4290C_B653_013</b>
	<b>1220 Infinity LC VL</b>	<b>G4290C</b>	<b>4290C_B652_001</b>
	<b>1220 Infinity LC VL</b>	<b>G4290C</b>	<b>4290C_B650_003</b>
	1120 Compact LC	G4291A	4291A_B672_002
	1120 Compact LC	G4291A	4291A_B670_005
	1120 Compact LC	G4291A	4291A_B660_005
	1120 Compact LC	G4291A	4291A_B653_013
	1120 Compact LC	G4291A	4291A_B652_001
	1120 Compact LC	G4291A	4291A_B650_003
	<b>1220 Infinity LC</b>	<b>G4291B</b>	<b>4291B_B672_002</b>
	<b>1220 Infinity LC</b>	<b>G4291B</b>	<b>4291B_B670_005</b>
	<b>1220 Infinity LC</b>	<b>G4291B</b>	<b>4291B_B660_005</b>
	<b>1220 Infinity LC</b>	<b>G4291B</b>	<b>4291B_B653_013</b>

## 1 Change Information

### Firmware Revision Change Overview

**Table 4** 1120 Compact LC / 1220 Infinity LC

Type	Module	Product#	Filename (.DLB)
	<b>1220 Infinity LC</b>	<b>G4291B</b>	<b>4291B_B652_001</b>
	<b>1220 Infinity LC</b>	<b>G4291B</b>	<b>4291B_B650_003</b>
	<b>1220 Infinity LC VL</b>	<b>G4291C</b>	<b>4291C_B672_002</b>
	<b>1220 Infinity LC VL</b>	<b>G4291C</b>	<b>4291C_B670_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4291C</b>	<b>4291C_B660_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4291C</b>	<b>4291C_B653_013</b>
	<b>1220 Infinity LC VL</b>	<b>G4291C</b>	<b>4291C_B652_001</b>
	<b>1220 Infinity LC VL</b>	<b>G4291C</b>	<b>4291C_B650_003</b>
	1120 Compact LC	G4292A	4292A_B672_002
	1120 Compact LC	G4292A	4292A_B670_005
	1120 Compact LC	G4292A	4292A_B660_005
	1120 Compact LC	G4292A	4292A_B653_013
	1120 Compact LC	G4292A	4292A_B652_001
	1120 Compact LC	G4292A	4292A_B650_003
	<b>1220 Infinity LC</b>	<b>G4292B</b>	<b>4292B_B672_002</b>
	<b>1220 Infinity LC</b>	<b>G4292B</b>	<b>4292B_B670_005</b>
	<b>1220 Infinity LC</b>	<b>G4292B</b>	<b>4292B_B660_005</b>
	<b>1220 Infinity LC</b>	<b>G4292B</b>	<b>4292B_B653_013</b>
	<b>1220 Infinity LC</b>	<b>G4292B</b>	<b>4292B_B652_001</b>
	<b>1220 Infinity LC</b>	<b>G4292B</b>	<b>4292B_B650_003</b>
	<b>1220 Infinity LC VL</b>	<b>G4292C</b>	<b>4292C_B672_002</b>
	<b>1220 Infinity LC VL</b>	<b>G4292C</b>	<b>4292C_B670_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4292C</b>	<b>4292C_B660_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4292C</b>	<b>4292C_B653_013</b>
	<b>1220 Infinity LC VL</b>	<b>G4292C</b>	<b>4292C_B652_001</b>

**Table 4** 1120 Compact LC / 1220 Infinity LC

Type	Module	Product#	Filename (.DLB)
	<b>1220 Infinity LC VL</b>	<b>G4292C</b>	<b>4292C_B650_003</b>
	1120 Compact LC	G4293A	4293A_B672_002
	1120 Compact LC	G4293A	4293A_B670_005
	1120 Compact LC	G4293A	4293A_B660_005
	1120 Compact LC	G4293A	4293A_B653_013
	1120 Compact LC	G4293A	4293A_B652_001
	1120 Compact LC	G4293A	4293A_B650_003
	<b>1220 Infinity LC</b>	<b>G4293B</b>	<b>4293B_B672_002</b>
	<b>1220 Infinity LC</b>	<b>G4293B</b>	<b>4293B_B670_005</b>
	<b>1220 Infinity LC</b>	<b>G4293B</b>	<b>4293B_B660_005</b>
	<b>1220 Infinity LC</b>	<b>G4293B</b>	<b>4293B_B653_013</b>
	<b>1220 Infinity LC</b>	<b>G4293B</b>	<b>4293B_B652_001</b>
	<b>1220 Infinity LC</b>	<b>G4293B</b>	<b>4293B_B650_003</b>
	<b>1220 Infinity LC VL</b>	<b>G4293C</b>	<b>4293C_B672_002</b>
	<b>1220 Infinity LC VL</b>	<b>G4293C</b>	<b>4293C_B670_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4293C</b>	<b>4293C_B660_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4293C</b>	<b>4293C_B653_013</b>
	<b>1220 Infinity LC VL</b>	<b>G4293C</b>	<b>4293C_B652_001</b>
	<b>1220 Infinity LC VL</b>	<b>G4293C</b>	<b>4293C_B650_003</b>
	<b>1220 Infinity LC VL</b>	<b>G4294B</b>	<b>4294B_B673_001</b>
	<b>1220 Infinity LC VL</b>	<b>G4294B</b>	<b>4294B_B672_002</b>
	<b>1220 Infinity LC VL</b>	<b>G4294B</b>	<b>4294B_B670_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4294B</b>	<b>4294B_B660_005</b>
	<b>1220 Infinity LC VL</b>	<b>G4294B</b>	<b>4294B_B653_013</b>

## 1 Change Information

### Firmware Revision Change Overview

**Table 4** 1120 Compact LC / 1220 Infinity LC

Type	Module	Product#	Filename (.DLB)
	1220 Infinity LC VL	G4294B	4294B_B652_001
	1220 Infinity LC VL	G4294B	4294B_B650_003

## 1260 Infinity SFC Modules

- NOTE** Firmware updates can be done for
- G4301A with the special SFC updater ONLY!
  - G4302A/G4303A with Agilent Lab Advisor software (B.02.02 or later) or the LAN/RS-232 Firmware Update Tool 2.10 or later.

**Table 5** 1260/1290 Infinity LC Modules (Pumps)

Type	Module	Product#	Filename (.DLB)	Notes
<b>Main</b>				
	1260 SFC Control Module	G4301A	4301A_x2_A308_009	x
	1260 SFC Control Module	G4301A	4301A_x2_A307_009	x
	1260 SFC Binary Pump	G4302A	4302A_B654_001	
	1260 SFC Binary Pump	G4302A	4302A_B650_003	
	1260 SFC Autosampler	G4303A	4303A_A654_003	
	1260 SFC Autosampler	G4303A	4303A_A650_003	

Notes:

X: individual firmware file for board revision B or C available

## 1260/1290 Infinity LC Modules

**NOTE** Firmware updates can be done with Agilent Lab Advisor software (B.02.02 or later) or the LAN/RS-232 Firmware Update Tool 2.10 or later. These tools provide also the conversion for the emulation mode.

New 1260/1290 Infinity modules that can be converted to emulate 1100/1200 modules show in the column “Emulation” the type it can be converted to.

### Pumps

**Table 6** 1260/1290 Infinity LC Modules (Pumps)

Type	Module	Product#	Filename (.DLB)	Emulation	
<b>Main</b>	<b>Pumps</b>				
		1100/1200 Isocratic Pump	G1310A	1310A_A654_001	
		1100/1200 Isocratic Pump	G1310A	1310A_A650_003	
		<b>1260 Isocratic Pump</b>	<b>G1310B</b>	<b>1310B_A654_001</b>	<b>A</b>
		<b>1260 Isocratic Pump</b>	<b>G1310B</b>	<b>1310B_A650_003</b>	<b>A</b>
		1100/1200 Quaternary Pump	G1311A	1311A_A654_001	
		1100/1200 Quaternary Pump	G1311A	1311A_A650_003	
		<b>1260 Quaternary Pump</b>	<b>G1311B</b>	<b>1311B_A654_001</b>	<b>A</b>
		<b>1260 Quaternary Pump</b>	<b>G1311B</b>	<b>1311B_A650_003</b>	<b>A</b>
		<b>1260 Quaternary Pump VL</b>	<b>G1311C</b>	<b>1311C_A654_001</b>	<b>A</b>
		<b>1260 Quaternary Pump VL</b>	<b>G1311C</b>	<b>1311C_A650_003</b>	<b>A</b>
		1100/1200 Binary Pump	G1312A	1312A_A654_001	
		1100/1200 Binary Pump	G1312A	1312A_A650_003	
		<b>1260 Binary Pump</b>	<b>G1312B</b>	<b>1312B_A654_001</b>	<b>A</b>
		<b>1260 Binary Pump</b>	<b>G1312B</b>	<b>1312B_A653_002</b>	<b>A</b>
		<b>1260 Binary Pump</b>	<b>G1312B</b>	<b>1312B_A652_001</b>	<b>A</b>

**Table 6** 1260/1290 Infinity LC Modules (Pumps)

Type	Module	Product#	Filename (.DLB)	Emulation
	1260 Binary Pump	G1312B	1312B_A650_003	A
	1260 Binary Pump VL	G1312C	1312C_A654_001	A
	1260 Binary Pump VL	G1312C	1312C_A650_003	A
	1260 Preparative Pump	G1361A	1361A_A654_001	
	1260 Preparative Pump	G1361A	1361A_A653_003	
	1260 Preparative Pump	G1361A	1361A_A650_004	
	1260 Capillary Pump	G1376A	1376A_A654_001	
	1260 Capillary Pump	G1376A	1376A_A650_003	
	1260 Nanoflow Pump	G2226A	2226A_A654_001	
	1260 Nanoflow Pump	G2226A	2226A_A650_003	
	1290 Quaternary Pump	G4204A	4204A_B673_002	
	1290 Quaternary Pump	G4204A	4204A_B672_002	
	1290 Quaternary Pump	G4204A	4204A_B671_001	
	1290 Quaternary Pump	G4204A	4204A_B670_005	
	1290 Quaternary Pump	G4204A	4204A_B660_005	
	1290 Quaternary Pump	G4204A	4204A_B656_002	
	1290 Quaternary Pump	G4204A	4204A_B655_005	
	1290 Quaternary Pump	G4204A	4204A_B653_013	
	1290 Quaternary Pump	G4204A	4204A_B652_001	
	1290 Quaternary Pump	G4204A	4204A_B651_004	
	1290 Binary Pump	G4220A	4220A_B673_001	
	1290 Binary Pump	G4220A	4220A_B672_002	
	1290 Binary Pump	G4220A	4220A_B671_001	
	1290 Binary Pump	G4220A	4220A_B670_005	
	1290 Binary Pump	G4220A	4220A_B660_005	

## 1 Change Information

### Firmware Revision Change Overview

**Table 6** 1260/1290 Infinity LC Modules (Pumps)

Type	Module	Product#	Filename (.DLB)	Emulation
	1290 Binary Pump	G4220A	4220A_B656_002	
	1290 Binary Pump	G4220A	4220A_B655_003	
	1290 Binary Pump	G4220A	4220A_B654_006	
	1290 Binary Pump	G4220A	4220A_B653_013	
	1290 Binary Pump	G4220A	4220A_B652_001	
	1290 Binary Pump	G4220A	4220A_B651_004	
	1290 Binary Pump	G4220A	4220A_B650_003	
	1290 Binary Pump VL	G4220B	4220B_B673_001	
	1290 Binary Pump VL	G4220B	4220B_B672_002	
	1290 Binary Pump VL	G4220B	4220B_B671_001	
	1290 Binary Pump VL	G4220B	4220B_B670_005	
	1290 Binary Pump VL	G4220B	4220B_B660_005	
	1290 Binary Pump VL	G4220B	4220B_B656_002	
	1290 Binary Pump VL	G4220B	4220B_B655_003	
	1290 Binary Pump VL	G4220B	4220B_B654_006	
	1290 Binary Pump VL	G4220B	4220B_B653_013	
	1290 Binary Pump VL	G4220B	4220B_B652_001	
	1290 Binary Pump VL	G4220B	4220B_B651_004	
	1290 Binary Pump VL	G4220B	4220B_B650_003	
	1260 Bio-inert Quaternary Pump	G5611A	5611A_A654_001	
	1260 Bio-inert Quaternary Pump	G5611A	5611A_A650_003	
	1290 Infinity II Quaternary Pump	G7104A	7104A_B673_002	G4204A
	1290 Infinity II Quaternary Pump	G7104A	7104A_B672_002	G4204A
	1290 Infinity II Quaternary Pump	G7104A	7104A_B671_001	G4204A
	1290 Infinity II Quaternary Pump	G7104A	7104A_B670_005	G4204A

**Table 6** 1260/1290 Infinity LC Modules (Pumps)

Type	Module	Product#	Filename (.DLB)	Emulation
	1290 Infinity II Binary Pump	G7120A	7120A_B673_001	G4220A
	1290 Infinity II Binary Pump	G7120A	7120A_B672_002	G4220A
	1290 Infinity II Binary Pump	G7120A	7120A_B671_001	G4220A
	1290 Infinity II Binary Pump	G7120A	7120A_B670_005	G4220A

# 1 Change Information

## Firmware Revision Change Overview

### Samplers

**Table 7** 1260/1290 Infinity LC Modules (Samplers)

Type	Module	Product#	Filename (.DLB)	Emulation
<b>Main</b>	<b>Samplers</b>			
	1100 Autosampler	G1313A	1313A_A654_003	
	1100 Autosampler	G1313A	1313A_A650_003	
	1100/1200 Standard Autosampler	G1329A	1329A_A654_003	
	1100/1200 Standard Autosampler	G1329A	1329A_A650_003	
	<b>1260 Standard Autosampler</b>	<b>G1329B</b>	<b>1329B_A654_003</b>	<b>A</b>
	<b>1260 Standard Autosampler</b>	<b>G1329B</b>	<b>1329B_A650_003</b>	<b>A</b>
	1200 Fraction Collector	G1364A	1364A_A654_002	
	1200 Fraction Collector	G1364A	1364A_A653_005	
	1200 Fraction Collector	G1364A	1364A_A650_003	
	<b>1260 Fraction Collector (PS)</b>	<b>G1364B</b>	<b>1364B_A654_002</b>	
	<b>1260 Fraction Collector (PS)</b>	<b>G1364B</b>	<b>1364B_A653_005</b>	
	<b>1260 Fraction Collector (PS)</b>	<b>G1364B</b>	<b>1364B_A650_003</b>	
	<b>1260 Fraction Collector (AS)</b>	<b>G1364C</b>	<b>1364C_A654_002</b>	
	<b>1260 Fraction Collector (AS)</b>	<b>G1364C</b>	<b>1364C_A653_005</b>	
	<b>1260 Fraction Collector (AS)</b>	<b>G1364C</b>	<b>1364C_A650_003</b>	
	<b>1260 Fraction Collector (µS)</b>	<b>G1364D</b>	<b>1364D_A654_002</b>	
	<b>1260 Fraction Collector (µS)</b>	<b>G1364D</b>	<b>1364D_A653_005</b>	
	<b>1260 Fraction Collector (µS)</b>	<b>G1364D</b>	<b>1364D_A650_003</b>	
	1200 High Performance Autosampler	G1367A	1367A_A654_006	
	1200 High Performance Autosampler	G1367A	1367A_A653_002	
	1200 High Performance Autosampler	G1367A	1367A_A650_003	
	1200 High Performance Autosampler	G1367B	1367B_A654_006	A
	1200 High Performance Autosampler	G1367B	1367B_A653_002	A

**Table 7** 1260/1290 Infinity LC Modules (Samplers)

Type	Module	Product#	Filename (.DLB)	Emulation
	1200 High Performance Autosampler	G1367B	1367B_A650_003	A
	1200 High Performance Autosampler SL	G1367C	1367C_A654_006	A
	1200 High Performance Autosampler SL	G1367C	1367C_A653_002	A
	1200 High Performance Autosampler SL	G1367C	1367C_A650_003	A
	1200 High Performance Autosampler SL+	G1367D	1367D_A654_006	C
	1200 High Performance Autosampler SL+	G1367D	1367D_A653_002	C
	1200 High Performance Autosampler SL+	G1367D	1367D_A650_003	C
	<b>1260 High Performance Autosampler</b>	<b>G1367E</b>	<b>1367E_A654_006</b>	<b>A, B, C, D</b>
	<b>1260 High Performance Autosampler</b>	<b>G1367E</b>	<b>1367E_A653_002</b>	<b>A, B, C, D</b>
	<b>1260 High Performance Autosampler</b>	<b>G1367E</b>	<b>1367E_A650_003</b>	<b>A, B, C, D</b>
	<b>1260 High Performance Micro Autosampler</b>	<b>G1377A</b>	<b>1377A_A654_006</b>	
	<b>1260 High Performance Micro Autosampler</b>	<b>G1377A</b>	<b>1377A_A653_002</b>	
	<b>1260 High Performance Micro Autosampler</b>	<b>G1377A</b>	<b>1377A_A650_003</b>	
	1200 Micro Autosampler	G1389A	1389A_A654_003	
	1200 Micro Autosampler	G1389A	1389A_A650_003	
	<b>1260 Dual-Loop Autosampler</b>	<b>G2258A</b>	<b>2258A_A654_006</b>	
	<b>1260 Dual-Loop Autosampler</b>	<b>G2258A</b>	<b>2258A_A653_002</b>	
	<b>1260 Dual-Loop Autosampler</b>	<b>G2258A</b>	<b>2258A_A650_003</b>	
	<b>1260 Preparative Autosampler</b>	<b>G2260A</b>	<b>2260A_A654_003</b>	
	<b>1260 Preparative Autosampler</b>	<b>G2260A</b>	<b>2260A_A650_003</b>	
	<b>1290 Autosampler</b>	<b>G4226A</b>	<b>4226A_A654_006</b>	
	<b>1290 Autosampler</b>	<b>G4226A</b>	<b>4226A_A653_002</b>	
	<b>1290 Autosampler</b>	<b>G4226A</b>	<b>4226A_A650_003</b>	
	<b>1290 Flexible Cube</b>	<b>G4227A</b>	<b>4227A_C670_005</b>	
	<b>1290 Flexible Cube</b>	<b>G4227A</b>	<b>4227A_C660_001</b>	

## 1 Change Information

### Firmware Revision Change Overview

**Table 7** 1260/1290 Infinity LC Modules (Samplers)

Type	Module	Product#	Filename (.DLB)	Emulation
	1290 Flexible Cube	G4227A	4227A_C653_001	
	1290 Flexible Cube	G4227A	4227A_C652_001	
	1290 Flexible Cube	G4227A	4227A_C650_001	
	1260 Fraction Collector Bio	G5664A	5664A_A654_002	
	1260 Fraction Collector Bio	G5664A	5664A_A653_005	
	1260 Fraction Collector Bio	G5664A	5664A_A650_003	
	1260 High Performance Autosampler	G5667A	5667A_A654_006	C, E
	1260 High Performance Autosampler	G5667A	5667A_A653_002	C, E
	1260 High Performance Autosampler	G5667A	5667A_A650_003	C, E
	1290 Infinty II Multisampler	G7167A	7167A_D673_003	
	1290 Infinty II Multisampler	G7167A	7167A_D672_002	
	1290 Infinty II Multisampler	G7167A	7167A_D670_005	
	1290 Infinty II Multisampler	G7167B	7167B_D673_003	
	1290 Infinty II Multisampler	G7167B	7167B_D672_002	
	1290 Infinty II Multisampler	G7167B	7167B_D670_005	
	1290 Infinty II Multisampler	G7167B	7167B_D660_011	

## Detectors

**Table 8** 1260/1290 Infinity LC Modules (Detectors)

Type	Module	Product#	Filename (.DLB)	Emulation
Main	<b>Detectors</b>			
	1100/1200 Variable Wavelength Detector VWD	G1314A	1314A_A650_004	
	<b>1260 Variable Wavelength Detector VL</b>	<b>G1314B</b>	<b>1314B_A650_004</b>	<b>A</b>
	<b>1260 Variable Wavelength Detector VL+</b>	<b>G1314C</b>	<b>1314C_A650_004</b>	<b>A, B</b>
	1200 Variable Wavelength Detector	G1314D	1314D_B673_001	
	1200 Variable Wavelength Detector	G1314D	1314D_B672_002	
	1200 Variable Wavelength Detector	G1314D	1314D_B670_006	
	1200 Variable Wavelength Detector	G1314D	1314D_B660_005	
	1200 Variable Wavelength Detector	G1314D	1314D_B653_013	
	1200 Variable Wavelength Detector	G1314D	1314D_B652_001	
	1200 Variable Wavelength Detector	G1314D	1314D_B651_004	
	1200 Variable Wavelength Detector	G1314D	1314D_B650_005	
	<b>1290 Variable Wavelength Detector</b>	<b>G1314E</b>	<b>1314E_B673_001</b>	
	<b>1290 Variable Wavelength Detector</b>	<b>G1314E</b>	<b>1314E_B672_002</b>	
	<b>1290 Variable Wavelength Detector</b>	<b>G1314E</b>	<b>1314E_B670_006</b>	
	<b>1290 Variable Wavelength Detector</b>	<b>G1314E</b>	<b>1314E_B660_005</b>	
	<b>1290 Variable Wavelength Detector</b>	<b>G1314E</b>	<b>1314E_B653_013</b>	
	<b>1290 Variable Wavelength Detector</b>	<b>G1314E</b>	<b>1314E_B652_001</b>	
	<b>1290 Variable Wavelength Detector</b>	<b>G1314E</b>	<b>1314E_B651_004</b>	
	<b>1290 Variable Wavelength Detector</b>	<b>G1314E</b>	<b>1314E_B650_003</b>	
	<b>1260 Variable Wavelength Detector</b>	<b>G1314F</b>	<b>1314F_B673_001</b>	<b>D</b>
	<b>1260 Variable Wavelength Detector</b>	<b>G1314F</b>	<b>1314F_B672_002</b>	<b>D</b>
	<b>1260 Variable Wavelength Detector</b>	<b>G1314F</b>	<b>1314F_B670_006</b>	<b>D</b>
<b>1260 Variable Wavelength Detector</b>	<b>G1314F</b>	<b>1314F_B660_005</b>	<b>D</b>	

# 1 Change Information

## Firmware Revision Change Overview

**Table 8** 1260/1290 Infinity LC Modules (Detectors)

Type	Module	Product#	Filename (.DLB)	Emulation
	<b>1260 Variable Wavelength Detector</b>	<b>G1314F</b>	<b>1314F_B653_013</b>	<b>D</b>
	<b>1260 Variable Wavelength Detector</b>	<b>G1314F</b>	<b>1314F_B652_001</b>	<b>D</b>
	<b>1260 Variable Wavelength Detector</b>	<b>G1314F</b>	<b>1314F_B651_004</b>	<b>D</b>
	<b>1260 Variable Wavelength Detector</b>	<b>G1314F</b>	<b>1314F_B650_003</b>	<b>D</b>
	1100 Diode Array Detector	G1315A	1315A_A650_003	
	1100/1200 Diode Array Detector	G1315B	1315B_A650_003	
	<b>1260 Diode Array Detector VL+</b>	<b>G1315C</b>	<b>1315C_B673_001</b>	<b>D</b>
	<b>1260 Diode Array Detector VL+</b>	<b>G1315C</b>	<b>1315C_B672_002</b>	<b>D</b>
	<b>1260 Diode Array Detector VL+</b>	<b>G1315C</b>	<b>1315C_B670_005</b>	<b>D</b>
	<b>1260 Diode Array Detector VL+</b>	<b>G1315C</b>	<b>1315C_B660_005</b>	<b>D</b>
	<b>1260 Diode Array Detector VL+</b>	<b>G1315C</b>	<b>1315C_B653_013</b>	<b>D</b>
	<b>1260 Diode Array Detector VL+</b>	<b>G1315C</b>	<b>1315C_B652_001</b>	<b>D</b>
	<b>1260 Diode Array Detector VL+</b>	<b>G1315C</b>	<b>1315C_B651_004</b>	<b>D</b>
	<b>1260 Diode Array Detector VL+</b>	<b>G1315C</b>	<b>1315C_B650_003</b>	<b>D</b>
	<b>1260 Diode Array Detector VL</b>	<b>G1315D</b>	<b>1315D_B673_001</b>	
	<b>1260 Diode Array Detector VL</b>	<b>G1315D</b>	<b>1315D_B672_002</b>	
	<b>1260 Diode Array Detector VL</b>	<b>G1315D</b>	<b>1315D_B670_005</b>	
	<b>1260 Diode Array Detector VL</b>	<b>G1315D</b>	<b>1315D_B660_005</b>	
	<b>1260 Diode Array Detector VL</b>	<b>G1315D</b>	<b>1315D_B653_013</b>	
	<b>1260 Diode Array Detector VL</b>	<b>G1315D</b>	<b>1315D_B652_001</b>	
	<b>1260 Diode Array Detector VL</b>	<b>G1315D</b>	<b>1315D_B651_004</b>	
	<b>1260 Diode Array Detector VL</b>	<b>G1315D</b>	<b>1315D_B650_003</b>	
	1100/1200 Fluorescence Detector	G1321A	1321A_A655_001	
	1100/1200 Fluorescence Detector	G1321A	1321A_A654_002	
	1100/1200 Fluorescence Detector	G1321A	1321A_A650_003	

**Table 8** 1260/1290 Infinity LC Modules (Detectors)

Type	Module	Product#	Filename (.DLB)	Emulation
	1260 Fluorescence Detector	G1321B	1321B_A655_001	A
	1260 Fluorescence Detector	G1321B	1321B_A654_002	A
	1260 Fluorescence Detector	G1321B	1321B_A653_002	A
	1260 Fluorescence Detector	G1321B	1321B_A650_003	A
	1260 Fluorescence Detector	G1321C	1321C_A655_001	
	1260 Fluorescence Detector	G1321C	1321C_A654_002	
	1260 Refractive Index Detector	G1362A	1362A_A654_004	
	1260 Refractive Index Detector	G1362A	1362A_A650_002	
	1100 Multiple Wavelength Detector	G1365A	1365A_A650_003	
	1100/1200 Multiple Wavelength Detector	G1365B	1365B_A650_003	
	1260 Multiple Wavelength Detector	G1365C	1365C_B673_001	D
	1260 Multiple Wavelength Detector	G1365C	1365C_B672_002	D
	1260 Multiple Wavelength Detector	G1365C	1365C_B670_005	D
	1260 Multiple Wavelength Detector	G1365C	1365C_B660_005	D
	1260 Multiple Wavelength Detector	G1365C	1365C_B653_013	D
	1260 Multiple Wavelength Detector	G1365C	1365C_B652_001	D
	1260 Multiple Wavelength Detector	G1365C	1365C_B651_004	D
	1260 Multiple Wavelength Detector	G1365C	1365C_B650_003	D
	1260 Multiple Wavelength Detector VL	G1365D	1365D_B673_001	
	1260 Multiple Wavelength Detector VL	G1365D	1365D_B672_002	
	1260 Multiple Wavelength Detector VL	G1365D	1365D_B670_005	
	1260 Multiple Wavelength Detector VL	G1365D	1365D_B660_005	
	1260 Multiple Wavelength Detector VL	G1365D	1365D_B653_013	
	1260 Multiple Wavelength Detector VL	G1365D	1365D_B652_001	
	1260 Multiple Wavelength Detector VL	G1365D	1365D_B651_004	

# 1 Change Information

## Firmware Revision Change Overview

**Table 8** 1260/1290 Infinity LC Modules (Detectors)

Type	Module	Product#	Filename (.DLB)	Emulation
	1260 Multiple Wavelength Detector VL	G1365D	1365D_B650_003	
	1290 Diode Array Detector	G4212A	4212A_B673_001	
	1290 Diode Array Detector	G4212A	4212A_B672_002	
	1290 Diode Array Detector	G4212A	4212A_B670_005	
	1290 Diode Array Detector	G4212A	4212A_B660_005	
	1290 Diode Array Detector	G4212A	4212A_B657_012	
	1290 Diode Array Detector	G4212A	4212A_B653_013	
	1290 Diode Array Detector	G4212A	4212A_B652_001	
	1290 Diode Array Detector	G4212A	4212A_B651_004	
	1290 Diode Array Detector	G4212A	4212A_B650_003	
	1260 Diode Array Detector	G4212B	4212B_B673_001	
	1260 Diode Array Detector	G4212B	4212B_B672_002	
	1260 Diode Array Detector	G4212B	4212B_B670_005	
	1260 Diode Array Detector	G4212B	4212B_B660_005	
	1260 Diode Array Detector	G4212B	4212B_B657_012	
	1260 Diode Array Detector	G4212B	4212B_B653_013	
	1260 Diode Array Detector	G4212B	4212B_B652_001	
	1260 Diode Array Detector	G4212B	4212B_B651_004	
	1260 Diode Array Detector	G4212B	4212B_B650_003	
	1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D673_001	G1314D/F
	1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D672_002	G1314D/F
	1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D670_005	G1314D/F
	1290 Infinity II Diode Array Detector	G7117B	7117B_D672_002	G4212A
	1290 Infinity II Diode Array Detector	G7117B	7117B_D670_005	G4212A
	1290 Infinity II Diode Array Detector FS	G7117A	7117A_D672_002	G4212B

**Table 8** 1260/1290 Infinity LC Modules (Detectors)

Type	Module	Product#	Filename (.DLB)	Emulation
	1290 Infinity II Diode Array Detector FS	G7117A	7117A_D670_005	G4212B

# 1 Change Information

## Firmware Revision Change Overview

### Others

**Table 9** 1260/1290 Infinity LC Modules (Others)

Type	Module	Product#	Filename (.DLB)	Emulation
Main	Others			
	1260 Thermostatted Column Compartment	G1316A	1316A_A650_005	
	1200 Thermostatted Column Compartment	G1316B	1316B_A650_005	
	1290 Thermostatted Column Compartment	G1316C	1316C_A653_002	A, B
	1290 Thermostatted Column Compartment	G1316C	1316C_A650_005	A, B
	1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C672_001	
	1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C670_005	
	1260 Automation Interface (WPS, AFC)	G2254A	2254A_A650_001	
	1290 Flexible Cube	G4227A	4227A_C653_001	1
	1290 Flexible Cube	G4227A	4227A_C652_001	
	1290 Flexible Cube	G4227A	4227A_C650_001	
	1260 Chip Cube MS Interface	G4240A	4240A_A650_003	
	1260 6-Position/7-Ports Valve	G1156A	1156A_A650_001	
	1260 2-Position/10-Ports Valve	G1157A	1157A_A650_001	
	1200 2-Position/6-Ports Valve	G1158A	1158A_A650_001	
	1260 2-Position/6-Ports Valve	G1158B	1158B_A650_001	
	1260 6-Position Column Selector Valve	G1159A	1159A_A650_001	
	1260 12-Position Selector Valve	G1160A	1160A_A650_001	
	1260 Micro Valve 2-Position/6-Ports	G1162A	1162A_A650_001	
	1260 Micro Valve 2-Position/10-Ports	G1163A	1163A_A650_001	
	1290 Infinity Valve Drive	G1170A	1170A_C670_005	1
	1290 Infinity Valve Drive	G1170A	1170A_C660_001	1
	1290 Infinity Valve Drive	G1170A	1170A_C653_001	1
	1290 Infinity Valve Drive	G1170A	1170A_C650_001	1

**Table 9** 1260/1290 Infinity LC Modules (Others)

Type	Module	Product#	Filename (.DLB)	Emulation
	1260 Universal Interface Box (UIB II)	G1390B	1390B_C670_005	1
	1260 Universal Interface Box (UIB II)	G1390B	1390B_C660_001	1
	1260 Universal Interface Box (UIB II)	G1390B	1390B_C653_002	1
	1260 Universal Interface Box (UIB II)	G1390B	1390B_C650_001	1
	1260 Universal Interface Box (UIB)	G1390A	1390A_A650_001	
	LAN Interface Card G1369C	G1369C	1369C_B672_002	2
	LAN Interface Card G1369C	G1369C	1369C_B670_005	2
	LAN Interface Card G1369C	G1369C	1369C_B660_002	2
	LAN Interface Card G1369C	G1369C	1369C_B653_013	2
	LAN Interface Card G1369C	G1369C	1369C_B652_001	2
	LAN Interface Card G1369C	G1369C	1369C_B650_003	2
	G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B673_002	
	G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B670_005	
	G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B644_001	

**Controllers are now listed in a separate bulletin!**

**Notes:**

- 1 To operate the this CAN-slave module a host module with firmware from the same set/revision (any pump or detector with B.06.30 or above) is required.
- 2 If hosted modules are used in the system, the G1369C LAN Interface Card MUST have the same firmware revision (from the same set) as the hosted module. Otherwise the operation of hosted modules will show malfunctions.
- 3 Use always the latest revision.

## Core Changes

### Modules without on-board LAN (“A” firmware)

**Table 10** Core Changes A.06.54 (modules without on-board LAN)

<b>Date Introduced</b>	February 2015
<b>General</b>	For all modules with “A” firmware (G1362A, G1364A/D, G5464A)
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #019548: Made flow unit conversion unique when using remote services across modules with different LC module-platforms.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 11** Core Changes A.06.54 (modules without on-board LAN)

<b>Date Introduced</b>	December 2014
<b>General</b>	For all modules with “A” firmware.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• Took over the core fixes of releases up to A.06.54 for those modules with older Core..</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 12** Core Changes A.06.50 (modules without on-board LAN)

<b>Date Introduced</b>	May 2012
<b>General</b>	For all modules with “A” firmware.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #006383, #010628, #013784: Fixed some seldom occurring effects with analysis synchronization, e.g. hanging runs.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## Modules with on-board LAN (“B” and “D” firmware)

**Table 13** Core Changes B/D.06.73 (modules with on-board LAN)

<b>Date Introduced</b>	February 2015
<b>General</b>	For all modules with “B” and “D” firmware.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Enabled handling for new, upcoming tags in Nucleus (B-firmware) modules.</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 14** Core Changes B/D.06.72 (modules with on-board LAN)

<b>Date Introduced</b>	December 2014
<b>General</b>	For all modules with “B” and “D” firmware.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #022297: Under very special conditions time table entries were not executed correctly. This could only happen if the CPU load of the module was very high (e.g. a high-load module like the G4220A pump hosting slaves) and a time-table entry was made at the end of the run-time. Under these conditions there was a small risk that time table entries of the next run were ignored.</li> <li>• TeamTrack #022293: When condensation for the MCT G7116B is enabled and the thermostat cooled down to a low temperature, condensate was detected as expected. When the temperature now rises again above ambient, a leak error in the G7116B wrongly occurred (only if hosting a G7116B).</li> <li>• TeamTrack #022258: Enlarged field for column name and comment for the MCT G7116B from 16 to 32 bytes (only if hosting a G7116B).</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Implemented support for the new module types G7116B (Multi-column Thermostat)</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Core Changes

**Table 15** Core Changes B/D.06.70 (modules with on-board LAN)

<b>Date Introduced</b>	November 2014
<b>General</b>	For all modules with “B” and “D” firmware.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #019984: Made tag access more robust against wrongly detected tag absence</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• Implemented support for the new module types G7116B (Multi-column Thermostat)</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 16** Core Changes B.06.60 (modules with on-board LAN)

<b>Date Introduced</b>	September 2014
<b>General</b>	For all modules with “B” firmware. See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #20608, #021604: The time table did not work correctly if deleted and newly written during active run.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 17** Core Changes B.06.54 (modules with on-board LAN)

<b>Date Introduced</b>	May 2013
<b>General</b>	For all modules with “B” firmware
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #017747, 017625: Implemented fix to prevent from very seldom occurring CAN interface resets (resulting in module disappearing for 2 seconds on the CAN bus).</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 18** Core Changes B.06.53 (modules with on-board LAN)

<b>Date Introduced</b>	February 2013
<b>General</b>	For all modules with “B” firmware
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• Changed that purge pump time (command PPMP:TIME &lt;time&gt;) now specifies the absolute purge time needed for drawing and ejecting. Before, the time was a net-ejection-time (drawing did not count) (only for G4227A).</li> <li>• TeamTrack #017535: UIB G1390B did not correctly support fraction collector (AFC) clustering (only for G1390B).</li> <li>• TeamTrack #017667: UIB G1390B calculated wrong AnalogIn signal and actual for the user-defined unit (only for G1390B).</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 19** Core Changes B.06.52 (modules with on-board LAN)

<b>Date Introduced</b>	September 2012
<b>General</b>	For all modules with “B” firmware
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• TeamTrack #016377: Implemented additional commands PPMP:VOLB (pump volume with specific SSV selections) and PPMP:TIMB (pump for a time with specific SSV selections) for pumping from a specific bottle (<b>only for hosted module G4227A Flex Cube</b>).</li> <li>• TeamTrack #016378: Changed the behavior if the duration for pump volume (PPMP:VOL, PPMP:VOLB) or pump time (PPMP:TIME, PPMP:TIMB) takes longer than the stop time. If the stop time is over, the G4227A gets 'not ready' until the pump command has also finished (<b>only for hosted module G4227A Flex Cube</b>).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Core Changes

**Table 20** Core Changes B.06.51 (modules with on-board LAN)

<b>Date Introduced</b>	July 2012
<b>General</b>	For all modules with “B” firmware
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #16282: Modules with clustered valves occasionally did stay in 'not ready'-state with "Valve position member missing" (<b>only for G1170A, G4227A</b>).</li><li>• TeamTrack #016321: A module with clustered valves did not accept a second "get ready to switch" command. If the valve was already "ready to switch" a second command "get ready to switch" from the switching master caused a panic, now it will be ignored (<b>only for G1170A, G4227A</b>).</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 21** Core Changes B.06.50 (modules with on-board LAN)

<b>Date Introduced</b>	May 2012
<b>General</b>	For all modules with “B” firmware
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• No TeamTrack: Fixed some seldom occurring effects with analysis synchronization, e.g. hanging runs.</li><li>• No TeamTrack: Improved the performance of COSY list execution.</li><li>• No TeamTrack: Fixed that diag counters occasionally are counting wrong over power-cycle.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## Modules with “C” firmware

**Table 22** Core Changes C.06.72 (modules with C-firmware)

<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>TeamTrack #022297: Under very special conditions time table entries were not executed correctly. This could only happen if the CPU load of the module was very high (e.g. a high-load module like the G4220A pump hosting slaves) and a time-table entry was made at the end of the run-time. Under these conditions there was a small risk that time table entries of the next run were ignored.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 23** Core Changes C.06.70 (modules with C-firmware)

<b>Date Introduced</b>	November 2014
<b>General</b>	These modules have the same changes as the “B” core. See also “Firmware D” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>See “Core Changes B/D.06.70 (modules with on-board LAN)” on page 42</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 24** Core Changes C.06.60 (modules with C-firmware)

<b>Date Introduced</b>	September 2014
<b>General</b>	These modules have the same changes as the “B” core. See also “Firmware D” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>See “Core Changes B.06.60 (modules with on-board LAN)” on page 42</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Core Changes

**Table 25** Core Changes C.06.53 (modules with C-firmware)

<b>Date Introduced</b>	February 2012
<b>General</b>	These modules have the same changes as the “B” core.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• See “<a href="#">Core Changes B.06.53 (modules with on-board LAN)</a>” on page 43</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 26** Core Changes C.06.50 (modules with C-firmware)

<b>Date Introduced</b>	May 2012
<b>General</b>	These modules have the same changes as the “B” core.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• See “<a href="#">Core Changes B.06.50 (modules with on-board LAN)</a>” on page 44</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## Pumps Changes

### G1310A, G1311A, G1312A Iso-/ Quat-/ Bin-Pump

**Table 27** Pump Changes (G1310A, G1311A, G1312A)

<b>Revision</b>	1310A_A654_001, 1311A_A654_001,1312A_A654_001
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	• See “ <a href="#">Core Changes A.06.54 (modules without on-board LAN)</a> ” on page 40
<b>New Features</b>	• None
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 28** Pump Changes (G1310A, G1311A, G1312A)

<b>Revision</b>	1310A_A650_003, 1311A_A650_003,1312A_A650_003
<b>Date Introduced</b>	May 2012
<b>General</b>	See “ <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> ” on page 40
<b>Bugfix</b>	•
<b>New Features</b>	• None
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1310B, G1311B, G1311C, G5611A Iso-/Quat Pump

**Table 29** Pump Changes (G1310B, G1311B, G1311C, G5611A)

<b>Revision</b>	<a href="#">1310B_A654_001</a> , <a href="#">1311B_A654_001</a> , <a href="#">1311C_A654_001</a>
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• See <a href="#">“Core Changes A.06.54 (modules without on-board LAN)”</a> on page 40</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 30** Pump Changes (G1310B, G1311B, G1311C, G5611A)

<b>Revision</b>	<a href="#">1310B_A650_003</a> , <a href="#">1311B_A650_003</a> , <a href="#">1311C_A650_003</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See <a href="#">“Core Changes A.06.50 (modules without on-board LAN)”</a> on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #015081: Changed the high pressure limit to 200 bar if flow is higher than 5.0 ml/min.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1312B Binary SL Pump / G4302A SFC Binary Pump

**Table 31** Pump Changes (G1312B/G4302A)

<b>Revision</b>	1312B_A654_001, 4302A_B654_001
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	• See “ <a href="#">Core Changes A.06.54 (modules without on-board LAN)</a> ” on page 40
<b>New Features</b>	• None
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 32** Pump Changes (G1312B)

<b>Revision</b>	1312B_A653_002
<b>Date Introduced</b>	February 2013
<b>General</b>	
<b>Bugfix</b>	• None
<b>New Features</b>	• Preparation for future support of new medical devices class I module (K-Module).
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 33** Pump Changes (G1312B)

<b>Revision</b>	1312B_A652_001
<b>Date Introduced</b>	September 2012
<b>General</b>	
<b>Bugfix</b>	• None
<b>New Features</b>	• TeamTrack #016501: Add internal leak test from G1311B to binary pump
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Pumps Changes

**Table 34** Pump Changes (G1312B, G4302A)

<b>Revision</b>	1312B_A650_003
<b>Date Introduced</b>	May 2012
<b>General</b>	See also " <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> " on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #015483: Fixed that EMF counter CHVO and CUVO for liquimeters are counting in wrong increments when using compositions different from 100 % one channel (G1312A only).</li><li>• TeamTrack #015567: Fixed that Keep Pressure Mode used wrong pressure when trying to keep the actual pressure.</li><li>• No TeamTrack: Fixed that ACT:SSVA? sometimes show wrong value if pump was off.</li><li>• No TeamTrack: Moved memory for diagnostic buffers "CMPR" and "THRM" from FLASH to RAM to prevent from exhaust of user-flash memory.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• Allow max pressure of 600 bar for G4302A.</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1312C Binary VL Pump

**Table 35** Pump Changes (G1312C)

<b>Revision</b>	<a href="#">1312C_A654_001</a>
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• See <a href="#">“Core Changes A.06.54 (modules without on-board LAN)”</a> on page 40</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 36** Pump Changes (G1312C)

<b>Revision</b>	<a href="#">1312C_A650_003</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also <a href="#">“Core Changes A.06.50 (modules without on-board LAN)”</a> on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #015483: Fixed that EMF counter CHVO and CUVO for liquimeters are counting in wrong increments when using compositions different from 100 % one channel (G1312A only).</li> <li>• No TeamTrack: Fixed that ACT:SSVA? sometimes show wrong value if pump was off.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1361A Prep Pump

**Table 37** Pump Changes (G1361A)

<b>Revision</b>	<a href="#">1361A_A654_001</a>
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• See “<a href="#">Core Changes A.06.54 (modules without on-board LAN)</a>” on page 40</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 38** Pump Changes (G1361A)

<b>Revision</b>	<a href="#">1361A_A653_003</a>
<b>Date Introduced</b>	February 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• Changed the time argument of purge actual query: show PURG 1,-1 for infinite purging.</li><li>• TeamTrack #016467: Purge stop command 'PURG 0' was not working on infinite purging.</li><li>• TeamTrack #017435: Implemented that a second 'Purge' command is not executed when purging is currently in progress.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• Preparation for future support of new medical devices class I module (K-Module).</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 39** Pump Changes (G1361A)

<b>Revision</b>	<a href="#">1361A_A650_004</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also “ <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> ” on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #15918: Allow the specified max number of 97 time table entries.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1376A, G2226A Capillary Pump

**Table 40** Pump Changes (G1376A, G2226A)

<b>Revision</b>	<a href="#">1376A_A654_001, 2226A_A654_001</a>
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• See <a href="#">“Core Changes A.06.54 (modules without on-board LAN)”</a> on page 40</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 41** Pump Changes (G1376A, G2226A)

<b>Revision</b>	<a href="#">1376A_A650_003, 2226A_A650_003</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also <a href="#">“Core Changes A.06.50 (modules without on-board LAN)”</a> on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #015483: Fixed that EMF counter CHVO and CUVO for liquimeters are counting in wrong increments when using compositions different from 100 % one channel (G1312A only).</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• Support of degasser through RS232 interface</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G4204A / G7104A Quaternary Pump

**Table 42** QuaternaryPump Changes (G4204A/G7104A)

<b>Revision</b>	<a href="#">4204A_B673_002, 7104A_B673_002</a>
<b>Date Introduced</b>	February 2015
<b>General</b>	See “ <a href="#">Core Changes B/D.06.73 (modules with on-board LAN)</a> ” on page 41.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 43** QuaternaryPump Changes (G4204A/G7104A)

<b>Revision</b>	<a href="#">4204A_B672_002, 7104A_B672_002</a>
<b>Date Introduced</b>	December 2014
<b>General</b>	See “ <a href="#">Core Changes B/D.06.72 (modules with on-board LAN)</a> ” on page 41.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #022286: The seal wash option was wrongly detected if no seal wash pump was present. This only occurred with firmware revision B.06.70 and B.06.71.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 44** QuaternaryPump Changes (G4204A/G7104A)

<b>Revision</b>	<a href="#">4204A_B671_001, 7104A_B671_001</a>
<b>Date Introduced</b>	November 2014
<b>General</b>	See “ <a href="#">Core Changes B/D.06.70 (modules with on-board LAN)</a> ” on page 42.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #022218: FUnder very seldom circumstances the seal wash option was not detected correctly. This could only occur with firmware revision B.06.70.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Pumps Changes

**Table 45** QuaternaryPump Changes (G4204A/G7104A)

<b>Revision</b>	<a href="#">4204A_B670_005</a> , <a href="#">4204A_B670_005</a> , <a href="#">7104A_B670_005</a>
<b>Date Introduced</b>	November 2014
<b>General</b>	See “ <a href="#">Core Changes B/D.06.70 (modules with on-board LAN)</a> ” on page 42.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #022157: Fixed that stopping the filter back flush could lead to the error "Timeout: Wait for Pressure".</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• Implemented support for the new module type G7104A</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 46** QuaternaryPump Changes (G4204A)

<b>Revision</b>	<a href="#">4204A_B660_005</a>
<b>Date Introduced</b>	September 2014
<b>General</b>	See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• “<a href="#">Core Changes B.06.60 (modules with on-board LAN)</a>” on page 42</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 47** Pump Changes (G4204A)

<b>Revision</b>	<a href="#">4204A_B656_002</a>
<b>Date Introduced</b>	December 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #019325: Fixed that detecting a leak during purge did not switch off the pump.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• TeamTrack #019437: Implemented the 'Evacuation Mode' for removing condensed solvents from the degassing chamber and the tubings.</li><li>• Module supports ISET now (use USB-Dongle for licensing).</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 48** Pump Changes (G4204A)

<b>Revision</b>	4204A_B655_005
<b>Date Introduced</b>	July 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #017825, #017941: Changed the pump on/off behavior after purge or prime. Now the on/off status is the same as before the prime or purge. This enables the pumps for Walkup-systems, where purge/prime must be possible without activating the method flow. In previous revisions the pump was always ON after prime or purge. If now the pump should be ON after prime or purge, it must be switched ON before prime or purge.</li> <li>• TeamTrack #018017, #018827: Occasionally a high pressure limit violation occurred after filter backflush due to wrong (blocked) valve position.</li> <li>• TeamTrack #018018: The value for compressibility was wrong by factor 100 when using a single value instead of compressibility tables.</li> <li>• TeamTrack #018171: FChannel A was always selected for initialization of the pump. Changed to use the primary channel for initialization.</li> <li>• TeamTrack #018777: Implemented a more robust leak test.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 49** Pump Changes (G4204A)

<b>Revision</b>	4204A_B653_013
<b>Date Introduced</b>	February 2013
<b>General</b>	See " <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> " on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• Sometimes the method flow did not ramp-up correctly. If purge was started from standby, the method flow did not ramp-up after purge was finished.</li> <li>• Pressure ramp-up did not work after negative pressure values caused by a preceding purge.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Preparation for future support of new medical devices class I module (K-Module).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Pumps Changes

**Table 50** Pump Changes (G4204A)

<b>Revision</b>	<a href="#">4204A_B652_001</a>
<b>Date Introduced</b>	September 2012
<b>General</b>	See “ <a href="#">Core Changes B.06.52 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #016499: Pump on-time now only counts when pump is on.</li><li>• TeamTrack #016500: Rework of filter back-flush algorithm also removed problems when back-flush is stopped by a leak.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 51** Pump Changes (G4204A)

<b>Revision</b>	<a href="#">4204A_B651_004</a>
<b>Date Introduced</b>	July 2012
<b>General</b>	Initial firmware for 1290 Infinity G4204A Quaternary Pump
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G4220A/B / G7120A/B Binary Pump

**Table 52** Binary Pump Changes (G4220A/B / G7120A/B)

<b>Revision</b>	<a href="#">4220A_B673_001</a> , <a href="#">4220B_B673_001</a> , <a href="#">7120A_B673_001</a>
<b>Date Introduced</b>	February 2015
<b>General</b>	<ul style="list-style-type: none"> <li>• See “<a href="#">Core Changes B/D.06.73 (modules with on-board LAN)</a>” on page 41.</li> </ul>
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 53** Binary Pump Changes (G4220A/B / G7120A/B)

<b>Revision</b>	<a href="#">4220A_B672_002</a> , <a href="#">4220B_B672_002</a> , <a href="#">7120A_B672_002</a>
<b>Date Introduced</b>	December 2014
<b>General</b>	<ul style="list-style-type: none"> <li>• See “<a href="#">Core Changes B/D.06.72 (modules with on-board LAN)</a>” on page 41.</li> </ul>
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 54** Binary Pump Changes (G4220A/B / G7120A/B)

<b>Revision</b>	<a href="#">4220A_B671_001</a> , <a href="#">4220B_B671_001</a> , <a href="#">7120A_B671_001</a>
<b>Date Introduced</b>	November 2014
<b>General</b>	See “ <a href="#">Core Changes B/D.06.70 (modules with on-board LAN)</a> ” on page 42.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #022218: Under very seldom circumstances the seal wash option was not detected correctly. This could only occur with firmware revision B.06.70</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Pumps Changes

**Table 55** Binary Pump Changes (G4220A/B / G7120A/B)

<b>Revision</b>	<a href="#">4220A_B670_005</a> , <a href="#">4220B_B671_001</a> , <a href="#">7120A_B670_005</a>
<b>Date Introduced</b>	November 2014
<b>General</b>	See “ <a href="#">Core Changes B/D.06.70 (modules with on-board LAN)</a> ” on page 42.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• Implemented support for the new 2D-LC feature.</li><li>• Implemented support for the new module type G7120A.</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 56** Pump Changes (G4220A/B)

<b>Revision</b>	<a href="#">4220A_B660_005</a> , <a href="#">4220B_B660_005</a>
<b>Date Introduced</b>	September 2014
<b>General</b>	See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• “<a href="#">Core Changes B.06.60 (modules with on-board LAN)</a>” on page 42</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 57** Pump Changes (G4220A/B)

<b>Revision</b>	<a href="#">4220A_B656_002</a> , <a href="#">4220B_B656_002</a>
<b>Date Introduced</b>	December 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #019324: Fixed that detecting a leak during purge did not switch off the pump.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• TeamTrack #019437: Implemented the 'Evacuation Mode' for removing condensed solvents from the degassing chamber and the tubings.</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 58** Pump Changes (G4220A/B)

<b>Revision</b>	<a href="#">4220A_B655_003</a> , <a href="#">4220B_B655_003</a>
<b>Date Introduced</b>	July 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #017825, #017941: Changed the pump on/off behavior after purge or prime. Now the on/off status is the same as before the prime or purge. This enables the pumps for Walkup-systems, where purge/prime must be possible without activating the method flow. In previous revisions the pump was always ON after prime or purge. If now the pump should be ON after prime or purge, it must be switched ON before prime or purge.</li> <li>• TeamTrack #017992, #018437: Fix that occasionally the error EE 29233 ("Intake wasn't done when deliver demanded defill") occurred during sharp flow increase.</li> <li>• TeamTrack #018777: Implemented a more robust leak test.</li> </ul>
<b>New Features</b>	None
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 59** Pump Changes (G4220A/B)

<b>Revision</b>	<a href="#">4220A_B654_006</a> , <a href="#">4220B_B654_006</a>
<b>Date Introduced</b>	May 2013
<b>General</b>	See also " <a href="#">Core Changes B.06.54 (modules with on-board LAN)</a> " on page 42
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #017747, #017625: Implemented fix to prevent from very seldom occurring CAN interface resets (resulting in module disappearing for 2 seconds on the CAN bus)</li> </ul>
<b>New Features</b>	None
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Pumps Changes

**Table 60** Pump Changes (G4220A/B)

<b>Revision</b>	<a href="#">4220A_B653_013</a> , <a href="#">4220B_B653_013</a>
<b>Date Introduced</b>	February 2013
<b>General</b>	See also “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• Implemented better reproducibility for 2D-LC by stroke-preview.</li><li>• TeamTrack #016991: Implemented more accurate composition values. The sum of actual composition values was sometimes 99,999% instead 100%.</li></ul>
<b>New Features</b>	Preparation for future support of new medical devices class I module (K-Module).
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 61** Pump Changes (G4220A/B)

<b>Revision</b>	<a href="#">4220A_B652_001</a> , <a href="#">4220B_B652_001</a>
<b>Date Introduced</b>	September 2012
<b>General</b>	See also “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #016231: Fixed that 1st composition values of a shifted gradient (2DLC) was always 100% A</li><li>• TeamTrack #016498: Fixed that manual stop of a purge was ignored, although purge state was not shown anymore.</li><li>• TeamTrack #016499: Pump on-time now only counts when pump is on.</li><li>• TeamTrack #016502: DRIVE:PARK now retracts pistons far enough.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 62** Pump Changes (G4220A/B)

<b>Revision</b>	<a href="#">4220A_B651_004</a> , <a href="#">4220B_B651_004</a>
<b>Date Introduced</b>	July 2012
<b>General</b>	See also “ <a href="#">Core Changes B.06.51 (modules with on-board LAN)</a> ” on page 44
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Completed the implementation of support for 2D-LC.</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 63** Pump Changes (G4220A/B)

<b>Revision</b>	<a href="#">4220A_B650_003</a> , <a href="#">4220B_B651_004</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also “ <a href="#">Core Changes B.06.50 (modules with on-board LAN)</a> ” on page 44
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #016070: Implemented a more accurate primary piston leak test.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## Sampler Changes

### G1367A/E, G1377A, G2258A, G4226A, G5667A HiP Autosampler

**Table 64** High Performance Autosampler Changes (G1367A/E, G1377A, G2258A, G4226A, G5667A)

<b>Revision</b>	1367A_A654_006, 1367B_A654_006, 1367C_A654_006, 1367D_A654_006, 1367E_A654_006, 1377A_A654_006, 2258A_A654_006, 4226A_A654_006, 5667A_A654_006
<b>Date Introduced</b>	July 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #018348: Module functionality was frozen after tray change during ReadTrayTag operation.</li> <li>• TeamTrack #018706: Needle crashed moving down in-between the two seats after "Needle to maintenance position" in driver's UI, meaning "position 50mm above seat" (G2258A only).</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OOQ/PV Recommendation</b>	No repeat OOQ/PV tests are recommended after update

**Table 65** High Performance Autosampler Changes (G1367A/E, G1377A, G2258A, G4226A, G5667A)

<b>Revision</b>	1367A_A653_002, 1367B_A653_002, 1367C_A653_002, 1367D_A653_002, 1367E_A653_002, 1377A_A653_002, 2258A_A653_002, 4226A_A653_002, 5667A_A653_002
<b>Date Introduced</b>	February 2013 (G1367E), May 2013 (others)
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• Implemented possibility for controllers w/o injector program support to overwrite the method parameter specifying the wanted injector program.</li> <li>• Added new definition for well-plate 'WorkBench's 35VialRack'.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Preparation for future support of new medical devices class I module (K-Module).</li> </ul>
<b>OOQ/PV Recommendation</b>	No repeat OOQ/PV tests are recommended after update

**Table 66** High Performance Autosampler Changes (G1367A/E, G1377A, G2258A, G4226A, G5667A)

<b>Revision</b>	<a href="#">1367A_A650_003</a> , <a href="#">1367B_A650_003</a> , <a href="#">1367C_A650_003</a> , <a href="#">1367D_A650_003</a> , <a href="#">1367E_A650_003</a> , <a href="#">1377A_A650_003</a> , <a href="#">2258A_A650_003</a> , <a href="#">4226A_A650_003</a> , <a href="#">5667A_A650_003</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also “ <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> ” on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>No TeamTrack: Move away from seat in case of error at measure seat to have access to the needle.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>TeamTrack #015365: Added the low-dispersion-kit (1.15 ul seat cap) effectively for G1367C, G1367D and G1367E equipped with a 40 ul-analytical head and old 102 ul volume loop cap.</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1313A, G1329A/B, G1389A, G2260A Standard Autosampler

**Table 67** Standard Autosampler Changes (G1313A, G1329A, G1329B, G1389A, G2260A)

<b>Revision</b>	<a href="#">1313A_A654_003</a> , <a href="#">1329A_A654_003</a> , <a href="#">1329B_A654_003</a> , <a href="#">1389A_A654_003</a> , <a href="#">2260A_A654_003</a>
<b>Date Introduced</b>	May 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #018219: Occasionally the method download directly after error failed if using own or SFC injector program. It reproducibly failed if the abort-reaction lasted for a while e.g. if the needle is at uppermost position, which is typical for G4303A as this is the needle's position when the sample vial shall be grabbed.</li> <li>• Implemented support for SFC fixed-loop user interface (method and config UI) (only for G4303A).</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 68** Standard Autosampler Changes (G1313A, G1329A, G1329B, G1389A, G2260A)

<b>Revision</b>	<a href="#">1313A_A650_003</a> , <a href="#">1329A_A650_003</a> , <a href="#">1329B_A650_003</a> , <a href="#">1389A_A650_003</a> , <a href="#">2260A_A650_003</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also " <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> " on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• Only Core Changes</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1364A/B/C/D, G5664A Fraction Collector

**Table 69** Fraction Collector Changes (G1364A/B/C/D, G5664A)

<b>Revision</b>	1364A_A654_002, 1364B_A654_002, 1364C_A654_002, 1364D_A654_002, 5664A_A654_002
<b>Date Introduced</b>	February 2015
<b>General</b>	See “ <a href="#">Core Changes A.06.54 (modules without on-board LAN)</a> ” on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 70** Fraction Collector Changes (G1364A/B/C/D, G5664A)

<b>Revision</b>	1364A_A653_005, 1364B_A653_005, 1364C_A653_005, 1364D_A653_005, 5664A_A653_005
<b>Date Introduced</b>	February 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #017003: In a FC cluster the partner list update (signal SIG_RS_PARTNERLIST_UPDATE) was not handled at all.</li> <li>• TeamTrack #017180: The FCRecovery master stuck in 'not ready'- state when method parameter RinseNeedleDuringPrepare was selected.</li> <li>• TeamTrack #017409: Allow Delay/DeadVolume-listing of calibrated peak-detectors even if they are currently not linked.</li> <li>• TeamTrack #017458: Reducing the list of linked detectors did not work correctly.</li> <li>• TeamTrack #017626, #017647, #017657: Set, reset and increment of RecoveryPosition did not always work correctly.</li> <li>• Implemented that the event for incomplete cluster (EV 04265, EV_CLUSTER_INCOMPLETE) is sent again each time the list of missing modules has changed.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Sampler Changes

**Table 71** Fraction Collector Changes (G1364A/B/C/D, G5664A)

<b>Revision</b>	<a href="#">1364A_A650_003</a> , <a href="#">1364B_A650_003</a> , <a href="#">1364C_A650_003</a> , <a href="#">1364D_A650_003</a> , <a href="#">5664A_A650_003</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also " <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> " on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• Only Core Changes</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G7167A/B Multisampler

**Table 72** Multisampler Changes (G7167A/B)

<b>Revision</b>	<a href="#">7167B_D673_003</a> , <a href="#">7167A_D673_003</a> , <a href="#">Res_D670_001</a>
<b>Date Introduced</b>	February 2015
<b>General</b>	See “ <a href="#">Core Changes B/D.06.73 (modules with on-board LAN)</a> ” on page 41
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #022327: Implemented a better prevention from occasional solvent squirts when sampler's needle leaves park station and multi-wash option is installed.</li> <li>• TeamTrack #022420: Fixed missing volume when using multi-draw.</li> <li>• TeamTrack #022525: Shortened the time for reconditioning solvent for seat back-flush during multi-wash.</li> <li>• Implemented better cooler control to also prevent from a possible malfunctioning of the optional cooler.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 73** Multisampler Changes (G7167A/B)

<b>Revision</b>	<a href="#">7167B_D672_002</a> , <a href="#">7167A_D672_002</a> , <a href="#">Res_D670_001</a>
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• See “<a href="#">Core Changes B/D.06.72 (modules with on-board LAN)</a>” on page 41.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Sampler Changes

**Table 74** Multisampler Changes (G7167A/B)

<b>Revision</b>	<a href="#">7167B_D670_005</a> , <a href="#">7167A_D670_005</a> , <a href="#">Res_D670_001</a>
<b>Date Introduced</b>	November 2014
<b>General</b>	Initial for G7167A. See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>Occasionally the writing of post-mortem debug information after a panic took so long that it seemed that the module did not react at all (not starting the resident system and also no reaction of the power-switch).</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>Implemented support for the new module type G7167A (600 bar Multisampler).</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 75** Multisampler Changes (G7167B)

<b>Revision</b>	<a href="#">7167B_D660_011</a> , <a href="#">Res_D660_002</a>
<b>Date Introduced</b>	September 2014
<b>General</b>	This is the initial firmware. See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>None</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## Detector Changes

### G1314A/B/C VWD

**Table 76** VW Detector Changes (G1314A/B/C)

<b>Revision</b>	<a href="#">1314A_A650_004</a> , <a href="#">1314B_A650_004</a> , <a href="#">1314C_A650_004</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also “ <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> ” on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• Only Core Changes</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OO/PV Recommendation</b>	No repeat OO/PV tests are recommended after update

## G1314D/E/F VWD

**Table 77** VW Detector Changes (G1314D/E/F)

<b>Revision</b>	1314D_B673_001, 1314E_B673_001, 1314F_B672_002
<b>Date Introduced</b>	February 2015
<b>General</b>	See “ <a href="#">Core Changes B/D.06.73 (modules with on-board LAN)</a> ” on page 41
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 78** VW Detector Changes (G1314D/E/F)

<b>Revision</b>	1314D_B672_002, 1314E_B672_002, 1314F_B670_006
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• See “<a href="#">Core Changes B/D.06.72 (modules with on-board LAN)</a>” on page 41.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 79** VW Detector Changes (G1314D/E/F)

<b>Revision</b>	1314D_B670_006, 1314E_B670_006, 1314F_B670_006
<b>Date Introduced</b>	November 2014
<b>General</b>	See “ <a href="#">Core Changes B/D.06.70 (modules with on-board LAN)</a> ” on page 42.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #019984 / CAPA #5265: The lamp and the cell tag intermittently disappeared for a few seconds.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 80** VW Detector Changes (G1314D/E/F)

<b>Revision</b>	1314D_B660_005, 1314E_B660_005, 1314F_B660_005
<b>Date Introduced</b>	September 2014
<b>General</b>	See “ <a href="#">Core Changes B.06.60 (modules with on-board LAN)</a> ” on page 42. See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 81** VW Detector Changes (G1314D/E/F)

<b>Revision</b>	1314D_B653_013, 1314E_B653_013, 1314F_B653_013
<b>Date Introduced</b>	February 2013
<b>General</b>	See “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Preparation for future support of new medical devices class I module (K-Module).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 82** VW Detector Changes (G1314D/E/F)

<b>Revision</b>	1314D_B652_001, 1314E_B652_001, 1314F_B652_001
<b>Date Introduced</b>	September 2012
<b>General</b>	See “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Only Core Changes</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Detector Changes

**Table 83** VW Detector Changes (G1314D/E/F)

<b>Revision</b>	1314D_B651_004, 1314E_B651_004, 1314F_B651_004
<b>Date Introduced</b>	July 2012
<b>General</b>	See “Core Changes B.06.51 (modules with on-board LAN)” on page 44
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• Only Core Changes</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 84** VW Detector Changes (G1314D/E/F)

<b>Revision</b>	1314D_B650_005, 1314E_B650_003, 1314F_B650_003
<b>Date Introduced</b>	May 2012
<b>General</b>	See also “Core Changes B.06.50 (modules with on-board LAN)” on page 44
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• Only Core Changes</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G7114B VWD

**Table 85** VW Detector Changes (G7114B)

<b>Revision</b>	<a href="#">7114B_D673_001</a> , <a href="#">Res_D670_001</a>
<b>Date Introduced</b>	February 2015
<b>General</b>	<ul style="list-style-type: none"> <li>See “<a href="#">Core Changes B/D.06.73 (modules with on-board LAN)</a>” on page 41.</li> </ul>
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>TeamTrack #022348: The Dual-WL mode was not working when the lamp was ignited after the Dual-WL mode was activated. This resulted in a flat chromatogram</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 86** VW Detector Changes (G7114B)

<b>Revision</b>	<a href="#">7114B_D672_002</a> , <a href="#">Res_D670_001</a>
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>See “<a href="#">Core Changes B/D.06.72 (modules with on-board LAN)</a>” on page 41.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 87** VW Detector Changes (G7114B)

<b>Revision</b>	<a href="#">7114B_D670_005</a> , <a href="#">Res_D670_001</a>
<b>Date Introduced</b>	November 2014
<b>General</b>	Initial Firmware. See “ <a href="#">Core Changes B/D.06.70 (modules with on-board LAN)</a> ” on page 42
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>Initial firmware release for the new module type G7114B</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Detector Changes

# G1315A/B DAD, G1365A/B MWD

**Table 88** DAD/MWD Detector Changes (G1315A/B, G1365A/B)

<b>Revision</b>	<a href="#">1315A_A650_003</a> , <a href="#">1315B_A650_003</a> , <a href="#">1365A_A650_003</a> , <a href="#">1365B_A650_003</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also " <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> " on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• Only Core Changes</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1315C/D DAD, G1365C/D MWD

**Table 89** DAD/MWD Detector Changes (G1315C /D, G1365C/D)

<b>Revision</b>	1315C_B673_001, 1315D_B673_001, 1365C_B673_001, 1365D_B673_001, Res_B670_001
<b>Date Introduced</b>	February 2015
<b>General</b>	See “ <a href="#">Core Changes B/D.06.73 (modules with on-board LAN)</a> ” on page 41
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>TeamTrack #022603: The module type could not be changed from G1315C to G4285B if the DAD mainboard was exchanged in the G4294B Compact LC.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 90** DAD/MWD Detector Changes (G1315C /D, G1365C/D)

<b>Revision</b>	1315C_B672_002, 1315D_B672_002, 1365C_B672_002, 1365D_B672_002, Res_B670_001
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>See “<a href="#">Core Changes B/D.06.72 (modules with on-board LAN)</a>” on page 41.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 91** DAD/MWD Detector Changes (G1315C /D, G1365C/D)

<b>Revision</b>	1315C_B670_005, 1315D_B670_005, 1365C_B670_005, 1365D_B670_005
<b>Date Introduced</b>	November 2014
<b>General</b>	See “ <a href="#">Core Changes B/D.06.70 (modules with on-board LAN)</a> ” on page 42.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>TeamTrack #019984 / CAPA #5265: The lamp and the cell tag intermittently disappeared for a few seconds.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Detector Changes

**Table 92** DAD/MWD Detector Changes (G1315C /D, G1365C/D)

<b>Revision</b>	1315C_B660_005, 1315D_B660_005, 1365C_B660_005, 1365D_B660_005
<b>Date Introduced</b>	September 2014
<b>General</b>	See “ <a href="#">Core Changes B.06.60 (modules with on-board LAN)</a> ” on page 42. See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>TeamTrack #020768: Made module more robust against process congestion when hosting three slaves and using high data rates. For this, the scan data rate for data intensive scans was lowered and better performing filter stages are used.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>TeamTrack #018619: Added sysvar 'LGHT 1 0' which enables or disables the light-on switching after lamp ignition(<b>used in the G4212 DAD</b>).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 93** DAD/MWD Detector Changes (G1315C /D, G1365C/D)

<b>Revision</b>	1315C_B653_013, 1315D_B653_013, 1365C_B653_013, 1365D_B653_013
<b>Date Introduced</b>	February 2013
<b>General</b>	See “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>Preparation for future support of new medical devices class I module (K-Module).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 94** DAD/MWD Detector Changes (G1315C /D, G1365C/D)

<b>Revision</b>	1315C_B652_001, 1315D_B652_001, 1365C_B652_001, 1365D_B652_001
<b>Date Introduced</b>	September 2012
<b>General</b>	See “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>Only Core Changes</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 95** DAD/MWD Detector Changes (G1315C /D, G1365C/D)

<b>Revision</b>	1315C_B651_004, 1315D_B651_004, 1365C_B651_004, 1365D_B651_004
<b>Date Introduced</b>	July 2012
<b>General</b>	See “Core Changes B.06.51 (modules with on-board LAN)” on page 44
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Only Core Changes</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 96** DAD/MWD Detector Changes (G1315C /D, G1365C/D)

<b>Revision</b>	1315C_B650_003, 1315D_B650_003, 1365C_B650_003, 1365D_B650_003
<b>Date Introduced</b>	May 2012
<b>General</b>	See also “Core Changes B.06.50 (modules with on-board LAN)” on page 44
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• Only Core Changes</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Support of future new micro slit assembly. This new micro slit assembly will replace the current slit assembly (planned for July/August 2012).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G4212A/B DAD

**Table 97** DAD Changes (G4212A/B)

<b>Revision</b>	4212A_B673_001, 4212B_B673_001, Res_B670_001
<b>Date Introduced</b>	February 2015
<b>General</b>	<ul style="list-style-type: none"><li>• See “<a href="#">Core Changes B/D.06.73 (modules with on-board LAN)</a>” on page 41.</li></ul>
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 98** DAD Changes (G4212A/B)

<b>Revision</b>	4212A_B672_002, 4212B_B672_002, Res_B670_001
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• See “<a href="#">Core Changes B/D.06.72 (modules with on-board LAN)</a>” on page 41.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 99** DAD Changes (G4212A/B)

<b>Revision</b>	4212A_B670_005, 4212B_B670_005
<b>Date Introduced</b>	November 2014
<b>General</b>	See “ <a href="#">Core Changes B/D.06.70 (modules with on-board LAN)</a> ” on page 42.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #019984 / CAPA #5265: The lamp and the cell tag intermittently disappeared for a few seconds.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 100** DAD Changes (G4212A/B)

<b>Revision</b>	<a href="#">4212A_B660_005</a> , <a href="#">4212B_B660_005</a>
<b>Date Introduced</b>	September 2014
<b>General</b>	See “ <a href="#">Core Changes B.06.60 (modules with on-board LAN)</a> ” on page 42. See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>TeamTrack #020768: Made module more robust against process congestion when hosting three slaves and using high data rates. For this, the scan data rate for data intensive scans was lowered and better performing filter stages are used.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>TeamTrack #018619: Added sysvar 'LGHT 1 0' which enables or disables the light-on switching after lamp ignition (<b>used in the G4212 DAD</b>).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 101** DAD Changes (G4212A/B)

<b>Revision</b>	<a href="#">4212A_B657_012</a> , <a href="#">4212B_B657_012</a>
<b>Date Introduced</b>	March 2014
<b>General</b>	See “ <a href="#">Core Changes B.06.54 (modules with on-board LAN)</a> ” on page 42
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>Added new 'High Dynamic Range' (HDR) feature (to be enabled by USB-Dongle).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 102** DAD Changes (G4212A/B)

<b>Revision</b>	<a href="#">4212A_B653_013</a> , <a href="#">4212B_B653_013</a>
<b>Date Introduced</b>	February 2013
<b>General</b>	See “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>Preparation for future support of new medical devices class I module (K-Module).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Detector Changes

**Table 103** DAD Changes (G4212A/B)

<b>Revision</b>	<a href="#">4212A_B652_001</a> , <a href="#">4212B_B652_001</a>
<b>Date Introduced</b>	September 2012
<b>General</b>	See “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• Only Core Changes</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 104** DAD Changes (G4212A/B)

<b>Revision</b>	<a href="#">4212A_B651_004</a> , <a href="#">4212B_B651_004</a>
<b>Date Introduced</b>	July 2012
<b>General</b>	See “ <a href="#">Core Changes B.06.51 (modules with on-board LAN)</a> ” on page 44
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #016294: The (re)-calibration algorithm showed too large deviations (&gt;1 nm). The (re)-calibration algorithm worked correctly in FW revision B.06.44 but not in B.06.50.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 105** DAD Changes (G4212A/B)

<b>Revision</b>	4212A_B652_001, 4212B_B650_003
<b>Date Introduced</b>	May 2012
<b>General</b>	<p><b>This firmware has a problem with the (re)calibration algorithm and should not be used. Use B.06.51 or later.</b></p> <p>See also "<a href="#">Core Changes B.06.50 (modules with on-board LAN)</a>" on page 44</p>
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• Only Core Changes</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Support of future new micro slit assembly. This new micro slit assembly will replace the current slit assembly (planned for July/August 2012).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Detector Changes

# G7117A/B DAD

**Table 106** DAD Changes (G7117A/B)

<b>Revision</b>	<a href="#">7114B_D672_002</a> , <a href="#">Res_D670_001</a>
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• See <a href="#">“Core Changes B/D.06.72 (modules with on-board LAN)”</a> on page 41.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 107** DAD Changes (G7117A/B)

<b>Revision</b>	<a href="#">7114B_D670_005</a> , <a href="#">Res_D670_001</a>
<b>Date Introduced</b>	November 2014
<b>General</b>	Initial Firmware. See <a href="#">“Core Changes B/D.06.70 (modules with on-board LAN)”</a> on page 42
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• Initial firmware release for the new module types G7117A and G7117B</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1321A/B/C FLD

**Table 108** FL Detecor Changes (G1321A/B/C)

<b>Revision</b>	<a href="#">1321A_A655_001</a> , <a href="#">1321B_A655_001</a> , <a href="#">1321C_A655_001</a>
<b>Date Introduced</b>	December 2013
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>TeamTrack #013049, #019246: Corrected the peak-form in case of ADC overflow. The overflow value is now the ADC saturation value (and no longer zero). Default is as mentioned in the 1260 Infinity user documentation.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>TeamTrack #019245: With the change for TeamTrack #013049, #019246 we now have three peak-forms in case of ADC overflow. Implemented a new command to allow switching back to "old" peak-forms in case of ADC overflow. This setting defaults to the new peak-form. The new command should only be used if advised to by support. Default is as mentioned in the 1260 Infinity user documentation.</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 109** FL Detecor Changes (G1321A/B/C)

<b>Revision</b>	<a href="#">1321A_A654_002</a> , <a href="#">1321B_A654_002</a> , <a href="#">1321C_A654_002</a>
<b>Date Introduced</b>	May 2013
<b>General</b>	Initial Firmware for G1321C FLD (derived from the existing G1321B, but does not have spectral and multi-signal capabilities). Shipment start in June 2013.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>Code supports the new module type G1321C.</li> <li>Allow doubled frequency (145 Hz) for G1321B</li> <li>Requires new controller interfaces: Instant Pilot with firmware B.02.16, Driver A.02.08, Agilent OpenLAB CDS ChemStation Edition C.01.05, OpenLAB EZChrom Edition EE A.04.05, ICF A.02.01 and Lab Advisor B.02.04.</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### Detector Changes

**Table 110** FL Detecor Changes (G1321B)

<b>Revision</b>	<a href="#">1321B_A653_002</a>
<b>Date Introduced</b>	February 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• Preparation for future support of new medical devices class I module (K-Module).</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 111** FL Detecor Changes (G1321A/B)

<b>Revision</b>	<a href="#">1321A_A650_003</a> , <a href="#">1321B_A650_003</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also " <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> " on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• Only Core Changes</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1362A RID

**Table 112** RI detector Changes (G1362A)

<b>Revision</b>	<a href="#">1362A_A654_004</a>
<b>Date Introduced</b>	February 2015
<b>General</b>	See also " <a href="#">Core Changes A.06.54 (modules without on-board LAN)</a> " on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>TeamTrack #020325: Corrected the wrong scale of the parameters for the RemotePeakDetector (Thrs, UpperThrs, UpSlope, DownSlope). Scale was wrong by factor 1/100 before.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 113** RI detector Changes (G1362A)

<b>Revision</b>	<a href="#">1362A_A650_002</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also " <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> " on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>TeamTrack #015985: Fixed the not-ready state-machine. If the heater was switched on automatically after power-on (auto-on) with heater temperature set to 'not controlled', the module now correctly shows state 'ready' instead 'not-ready' before.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G4240A Chip Cube

**Table 114** Chip Cube Changes (G4240A)

<b>Revision</b>	<a href="#">4240A_A650_003</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also " <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> " on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• Only Core Changes</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1316/B/C TCC

**Table 115** TCC Changes (G1316C)

<b>Revision</b>	<a href="#">1316C_A653_002</a>
<b>Date Introduced</b>	February 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• Analysis might occasionally hang when using 2D-LC.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Preparation for future support of new medical devices class I module (K-Module).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 116** TCC Changes (G1316A/B/C)

<b>Revision</b>	<a href="#">1316A_A650_005</a> , <a href="#">1316B_A650_005</a> , <a href="#">1316C_A650_005</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also " <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> " on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #010293, #010526: Allow the specified max number of 54 time table entries.</li> <li>• No TeamTrack: Implemented better compatibility for command VALV if G1316C is emulating G1316A or G1316B.</li> <li>• No TeamTrack: Improved error handling/detection of fan errors (less false fan errors).</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1369C LAN Interface Card

**NOTE** If hosted modules are used in the system, the G1369C LAN Interface Card **MUST** have the same firmware revision (from the same set) as the hosted module. Otherwise the operation of hosted modules will show malfunctions.

**Table 117** G1369C LAN Interface Card

<b>Revision</b>	1369C_B672_002, Resident Res_1369C_B670_001
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• See “Core Changes B/D.06.72 (modules with on-board LAN)” on page 41.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 118** G1369C LAN Interface Card

<b>Revision</b>	1369C_B670_005, Resident Res_1369C_B670_001
<b>Date Introduced</b>	November 2014
<b>General</b>	See “Core Changes B/D.06.70 (modules with on-board LAN)” on page 42.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 119** G1369C LAN Interface Card

<b>Revision</b>	1369C_B660_002, Resident Res_1369C_B660_002
<b>Date Introduced</b>	September 2014
<b>General</b>	See “ <a href="#">Core Changes B.06.60 (modules with on-board LAN)</a> ” on page 42. See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 120** G1369C LAN Interface Card

<b>Revision</b>	1369C_B653_013, Resident Res_1369C_B650_003
<b>Date Introduced</b>	February 2013
<b>General</b>	See “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 121** G1369C LAN Interface Card

<b>Revision</b>	1369C_B652_001, Resident Res_1369C_B650_003
<b>Date Introduced</b>	September 2012
<b>General</b>	See “ <a href="#">Core Changes B.06.50 (modules with on-board LAN)</a> ” on page 44
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Only Core Changes</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### G1369C LAN Interface Card

**Table 122** G1369C LAN Interface Card

<b>Revision</b>	1369C_B650_003, Resident Res_1369C_B650_003
<b>Date Introduced</b>	May 2012
<b>General</b>	See also “ <a href="#">Core Changes B.06.50 (modules with on-board LAN)</a> ” on page 44
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• See Core Changes</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## CAN Slave (Hosted Module) Changes

### G7116B Multicolumn Thermostat (MCT)

**Table 123** MCT Changes (G7117B)

<b>Revision</b>	<a href="#">7116B_C672_001</a> , <a href="#">Res_C670_005</a>
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>TeamTrack #022293: When condensation is enabled and the thermostat cooled down to a low temperature, condensate was detected as expected. When the temperature now rises again above ambient, a leak error wrongly occurred. Fixed now.</li> <li>TeamTrack #022258: Enlarged field for column name and comment from 16 to 32 bytes.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None.</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 124** MCT Changes (G7117B)

<b>Revision</b>	<a href="#">7116B_C670_005</a> , <a href="#">Res_C670_005</a>
<b>Date Introduced</b>	November 2014
<b>General</b>	Initial Firmware
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>None.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>Initial firmware release for the new module type G7116B (Multi-Column Thermostat).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1170A Valve Drive

**Table 125** G1170A Valve Drive

<b>Revision</b>	1170A_C670_005, Resident Res_C670_005
<b>Date Introduced</b>	November 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>Occasionally the switch-counter of the rotary valve could not work correctly.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>None.</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 126** G1170A Valve Drive

<b>Revision</b>	1170A_C660_001, Resident Res_C660_001
<b>Date Introduced</b>	September 2014
<b>General</b>	See also “Firmware D” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>None.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>TeamTrack #018900: New event EV 10210 (EV_COLD_STARTED) shows if the module was cold-started. The event is stored in the event history until the next warm-start is performed. The event's argument shows the time of the cold-start in seconds since 1970.</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 127** G1170A Valve Drive

<b>Revision</b>	1170A_C653_001, Resident Res_C653_001
<b>Date Introduced</b>	February 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>Analysis did occasionally hang when using 2D-LC.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>Preparation for future support of new medical devices class I module (K-Module).</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 128 G1170A Valve Drive**

<b>Revision</b>	1170A_C650_001, Resident Res_C650_001
<b>Date Introduced</b>	May 2012
<b>General</b>	Use firmware B.06.51 in the host module that fixes some issue on the hosted modules G1170A and G4227A).  See " <a href="#">Core Changes B.06.51 (modules with on-board LAN)</a> " on page 44 See " <a href="#">Core Changes B.06.50 (modules with on-board LAN)</a> " on page 44
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• See Core Changes</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G1390B Universal Interface Box II

**Table 129** G1390B Universal Interface Box II

<b>Revision</b>	1390B_C670_005, Resident Res_C670_005
<b>Date Introduced</b>	November 2014
<b>General</b>	Core change for compatibility with C670.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 130** G1390B Universal Interface Box II

<b>Revision</b>	1390B_C660_001, Resident Res_C660_001
<b>Date Introduced</b>	September 2014
<b>General</b>	See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• Fixed ERI overcurrent detection.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• TeamTrack #018900: New event EV 10210 (EV_COLD_STARTED) shows if the module was cold-started. The event is stored in the event history until the next warm-start is performed. The event's argument shows the time of the cold-start in seconds since 1970.</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 131** G1390B Universal Interface Box II

<b>Revision</b>	1390B_C653_002, Resident Res_C653_001
<b>Date Introduced</b>	February 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #017349: UIB G1390B went to resident mode if 5V output was overloaded.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• Preparation for future support of new medical devices class I module (K-Module).</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 132** G1390B Universal Interface Box II

<b>Revision</b>	1390B_C650_001, Resident Res_C653_001
<b>Date Introduced</b>	August 2012
<b>General</b>	Initial Release
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### CAN Slave (Hosted Module) Changes

## G4227A Flexible Cube

**Table 133** Flexible Cube Changes (G4227A)

<b>Revision</b>	<a href="#">4227A_C670_005</a> , Resident <a href="#">Res_C670_005</a>
<b>Date Introduced</b>	November 2014
<b>General</b>	See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>Occasionally the switch-counter of the rotary valve could not work correctly.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 134** Flexible Cube Changes (G4227A)

<b>Revision</b>	<a href="#">4227A_C660_001</a> , Resident <a href="#">Res_C660_001</a>
<b>Date Introduced</b>	September 2014
<b>General</b>	See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>Fixed ERI overcurrent detection.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>TeamTrack #018900: New event EV 10210 (EV_COLD_STARTED) shows if the module was cold-started. The event is stored in the event history until the next warm-start is performed. The event's argument shows the time of the cold-start in seconds since 1970.</li><li>Implemented support of the 160 bar pressure sensor.</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 135** Flexible Cube Changes (G4227A)

<b>Revision</b>	<a href="#">4227A_C653_001</a> , Resident <a href="#">Res_C653_001</a>
<b>Date Introduced</b>	February 2013
<b>General</b>	See “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Preparation for future support of new medical devices class I module (K-Module).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 136** Flexible Cube Changes (G4227A)

<b>Revision</b>	<a href="#">4227A_C652_001</a> , Resident <a href="#">Res_C650_001</a>
<b>Date Introduced</b>	September 2012
<b>General</b>	See “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• TeamTrack #016376: Implemented support for the Flex Cube hardware version with 1st valve optional.</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 137** Flexible Cube Changes (G4227A)

<b>Revision</b>	<a href="#">4227A_C650_001</a> , Resident <a href="#">Res_C650_001</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	<p>Use firmware B.06.51 in the host module that fixes some issue on the hosted modules G1170A and G4227A).</p> <p>See “<a href="#">Core Changes B.06.51 (modules with on-board LAN)</a>” on page 44 See “<a href="#">Core Changes C.06.50 (modules with C-firmware)</a>” on page 46</p>
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>

## 1 Change Information

### CAN Slave (Hosted Module) Changes

**Table 137** Flexible Cube Changes (G4227A)

<b>New Features</b>	<ul style="list-style-type: none"><li>• Implemented enhancement for commands PPMP:VOL and PPMP:TIME to optionally specify the flow.</li><li>• Implemented support for different FlexCube hardware versions (w/o pump, SSV, 2nd valve).</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1120/1220 LC system

The 1120 Compact LC and 1220 LC System include several modules under several product numbers, see “[1120 Compact LC / 1220 Infinity LC](#)” on page 18.

Below are the firmware changes listed.

**Table 138** 1120/1220 LC system

<b>Revision</b>	G4294B only: B.06.73_001, see “ <a href="#">1120 Compact LC / 1220 Infinity LC</a> ” on page 18 for details
<b>Date Introduced</b>	February 2015
<b>General</b>	<ul style="list-style-type: none"> <li>• See “<a href="#">Core Changes B/D.06.73 (modules with on-board LAN)</a>” on page 41.</li> </ul>
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 139** 1120/1220 LC system

<b>Revision</b>	B.06.72_002, see “ <a href="#">1120 Compact LC / 1220 Infinity LC</a> ” on page 18 for details
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• See “<a href="#">Core Changes B/D.06.72 (modules with on-board LAN)</a>” on page 41.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1 Change Information

### 1120/1220 LC system

**Table 140** 1120/1220 LC system

<b>Revision</b>	B.06.70_005, see “ <a href="#">1120 Compact LC / 1220 Infinity LC</a> ” on page 18 for details
<b>Date Introduced</b>	November 2014
<b>General</b>	See “ <a href="#">Core Changes B/D.06.70 (modules with on-board LAN)</a> ” on page 42.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #019984 / CAPA #5265: The lamp and the cell tag intermittently disappeared for a few seconds.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 141** 1120/1220 LC system

<b>Revision</b>	B.06.60_005, see “ <a href="#">1120 Compact LC / 1220 Infinity LC</a> ” on page 18 for details
<b>Date Introduced</b>	September 2014
<b>General</b>	See “ <a href="#">Core Changes B.06.60 (modules with on-board LAN)</a> ” on page 42. See also “ <a href="#">Firmware D</a> ” on page 17.
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #021162: Occasionally the pre-fetch vial did not work.</li><li>• TeamTrack #020768: (G4294B only) Made module more robust against process congestion when hosting three slaves and using high data rates. For this, the scan data rate for data intensive scans was lowered and better performing filter stages were used.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 142** 1120/1220 LC system

<b>Revision</b>	B.06.53_013, see “ <a href="#">1120 Compact LC / 1220 Infinity LC</a> ” on page 18 for details
<b>Date Introduced</b>	February 2013
<b>General</b>	See “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #017223: Unnecessary long delay in analysis synchronization (G4294B only).</li> <li>• TeamTrack #017701: Module initialization sometimes did not finish after cold-start.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Preparation for future support of new medical devices class I module (K-Module).</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 143** 1120/1220 LC system

<b>Revision</b>	B.06.52_001, see “ <a href="#">1120 Compact LC / 1220 Infinity LC</a> ” on page 18 for details
<b>Date Introduced</b>	September 2012
<b>General</b>	See “ <a href="#">Core Changes B.06.53 (modules with on-board LAN)</a> ” on page 43
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Core Changes</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 144** 1120/1220 LC system

<b>Revision</b>	B.06.50_003, see “ <a href="#">1120 Compact LC / 1220 Infinity LC</a> ” on page 18 for details
<b>Date Introduced</b>	May 2012
<b>General</b>	See also “ <a href="#">Core Changes B.06.50 (modules with on-board LAN)</a> ” on page 44
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Implemented park position for mobile Compact-LC</li> <li>• Support new module type G4294B.</li> <li>• Allow max temperature of 80°C for the column heater (instead 60°C)</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## 1260 SFC Module Changes

### G4301A SFC Controller

**Table 145** SFC Controller Changes (G4301A)

<b>Revision</b>	4301A_x2_A308_009
<b>Date Introduced</b>	December 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>TeamTrack #019514: SFC backpressure control was too slow during gradient recovery. During recovery from a gradient run, the instrument backpressure had oscillations and it took minutes before the instrument was ready again, often it fell into the notready timeout after 15 minutes. This was fixed and recovery is done faster now.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>TeamTrack #018563: Implemented a new reference signal which provides either the AuxPressure signal or the AnalogIn signal following the same logic as the corresponding actual value.</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 146** SFC Controller Changes (G4301A)

<b>Revision</b>	4301A_x2_A307_009
<b>Date Introduced</b>	May 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #018227: Implemented that a SFC module in a hybrid system is always ready when in LC mode and does not prevent from a start.</li> <li>• Improved noise of booster pump. On heavy load a strange sound occurred due to resonance of the stepper motor. This was removed by reducing the booster maximum speed.</li> <li>• Ignore the standby timeout in hybrid systems in LC mode to prevent from aborting long LC runs.</li> <li>• Fixed that backpressure did not leave its startup value.</li> <li>• TeamTrack #018258: Enlarged maximum value for extended-not-ready mode from 20 bar to 100 bar.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• Support new SFC Chemstation driver A.02.08.</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G4302A SFC Pump

**Table 147** Pump Changes (G4302A)

<b>Revision</b>	<a href="#">4302A_B654_001</a>
<b>Date Introduced</b>	December 2014
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• See <a href="#">“Core Changes A.06.54 (modules without on-board LAN)”</a> on page 40</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• None</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 148** Pump Changes (G4302A)

<b>Revision</b>	<a href="#">4302A_B650_003</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See <a href="#">“Core Changes A.06.50 (modules without on-board LAN)”</a> on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"><li>• TeamTrack #015567: Fixed that Keep Pressure Mode used wrong pressure when trying to keep the actual pressure.</li><li>• No TeamTrack: Fixed that ACT:SSVA? sometimes show wrong value if pump was off.</li><li>• No TeamTrack: Moved memory for diagnostic buffers "CMPR" and "THRM" from FLASH to RAM to prevent from exhaust of user-flash memory.</li></ul>
<b>New Features</b>	<ul style="list-style-type: none"><li>• Allow max pressure of 600 bar for G4302A.</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## G4303A SFC Autosampler

**Table 149** SFC Sampler Changes (G4303A)

<b>Revision</b>	<a href="#">4303A_A654_003</a>
<b>Date Introduced</b>	May 2013
<b>General</b>	
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• TeamTrack #018219: Occasionally the method download directly after error failed if using own or SFC injector program. It reproducibly failed if the abort-reaction lasted for a while e.g. if the needle is at uppermost position, which is typical for G4303A as this is the needle's position when the sample vial shall be grabbed.</li> <li>• Implemented support for SFC fixed-loop user interface (method and config UI) (only for G4303A).</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 150** SFC Sampler Changes (G4303A)

<b>Revision</b>	<a href="#">4303A_A650_003</a>
<b>Date Introduced</b>	May 2012
<b>General</b>	See also " <a href="#">Core Changes A.06.50 (modules without on-board LAN)</a> " on page 40
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• Only Core Changes</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

## Controller Changes

### G4208A Instant Pilot

Information for the Instant Pilot (G4208A) has been removed. It's now documented in an individual document "Local Controller" and can be downloaded from the web, see ["Where To Get Latest Information"](#) on page 3.

## G7100 Capillary Electrophoresis (CE)

Releases prior to revision A.06.44 can be found here:

<http://www.chem.agilent.com/search/?Ntt=firmware%207100>

**Table 151** G7100 Capillary Electrophoresis (CE)

<b>Revision</b>	<a href="#">7101A_B673_002</a> , <a href="#">Res_B670_001</a>
<b>Date Introduced</b>	February 2015
<b>General</b>	See also “ <a href="#">Core Changes B/D.06.73 (modules with on-board LAN)</a> ” on page 41
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>TeamTrack #022599: When using the parallel replenishment, the default replenishment vial was loaded too late at the end of the analysis. As a result, the replenishment needle was exposed to the air and buffers could crystallize and block the needle.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 152** G7100 Capillary Electrophoresis (CE)

<b>Revision</b>	<a href="#">7101A_B670_005</a> , <a href="#">Res_B670_001</a>
<b>Date Introduced</b>	November 2014
<b>General</b>	This release was part of the revision 6.70 release for LC modules.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>See also “<a href="#">Core Changes B/D.06.70 (modules with on-board LAN)</a>” on page 42 and previous releases.</li> <li>TeamTrack #015616: Depending on HW-variation and special conditions the module showed 110 mbar at flushing instead of the true value of ca. 910-950 mbar.</li> <li>TT #018935: Execute Replenishment in parallel to all other steps of the analysis to adapt the run time to the one of the G1600 CE.</li> <li>TeamTrack #019308: Malfunction of peak detection for 7100 CE fraction.</li> <li>TeamTrack #19780, #19785: When during data acquisition a vial was moved from LOAD to SEALED position and at the same time the tray cover was opened and closed the module felt into resident mode.</li> </ul>

## 1 Change Information

### G7100 Capillary Electrophoresis (CE)

**Table 152** G7100 Capillary Electrophoresis (CE)

<b>New Features</b>	<ul style="list-style-type: none"><li>• If the top cover is open and the CE is switched on, the Cassette-Cooler fan will rotate with reduced speed.</li></ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**Table 153** G7100 Capillary Electrophoresis (CE)

<b>Revision</b>	7101A_B644_001, Res_B650_003
<b>Date Introduced</b>	February 2013
<b>General</b>	This release was part of the revision 6.53 release for LC modules.
<b>Bugfix</b>	<ul style="list-style-type: none"> <li>• See also “<a href="#">Core Changes B.06.53 (modules with on-board LAN)</a>” on page 43 and previous releases.</li> <li>• TeamTrack #015440, #016463: Using a virtual vial (user vial) as replenish vial led to a panic and transfer to the resident system.</li> <li>• TeamTrack #017076: Changed the behavior on lifter blockage to prevent from too much mechanical stress that might have led to lift head breakage.</li> </ul>
<b>New Features</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>OQ/PV Recommendation</b>	No repeat OQ/PV tests are recommended after update

**1 Change Information**  
**G7100 Capillary Electrophoresis (CE)**



[www.agilent.com](http://www.agilent.com)

## In This Book

This bulletin contains information about the firmware revision for the Agilent 1200 Infinity System.

© Agilent Technologies 2012-2014

Printed in Germany  
Edition 02/16/2015



PDF ONLY



**Agilent Technologies**